

University of Pittsburgh
School of Medicine
CURRICULUM VITAE

BIOGRAPHICAL

Name: Shyam Visweswaran **Business Address:** The Offices at Baum
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EDUCATION and TRAINING

GRADUATE

| Dates Attended | Name and Location of Institution | Degree Received and Year | Major Subject |
|-----------------------|--|------------------------------------|----------------------|
| 07/1983 – 03/1989 | Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER), Puducherry, India | M.B.,B.S., 1989 (MD Equivalent) | Medicine and Surgery |

POSTGRADUATE

| Dates Attended | Name and Location of Institution | Degree Received or Position | Major Subject |
|-----------------------|--|------------------------------------|--|
| 09/1989 – 06/1991 | Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER), Puducherry, India | Junior Resident | Anesthesiology |
| 08/1991 – 06/1996 | University of Illinois at Urbana-Champaign, Urbana, IL | M.S., 1996 | Physiology and Biophysics |
| 07/1996 – 06/1997 | St. Luke's - Roosevelt Medical Center, New York, NY | PGY1 | Medicine Michael Greico, MD – program director |
| 07/1997 – 06/1999 | Boston University, Boston, MA | PGY2 – PGY4 | Neurology Robert G. Feldman, MD – program director |

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|-------------------|--|----------------------------|--|
| 07/2000 – 06/2001 | ArsDigita University, Cambridge, MA | Post-baccalaureate program | Computer Science Shai Simonson, PhD – program director |
| 08/2001 – 09/2007 | University of Pittsburgh, Pittsburgh, PA | Ph.D., 2007 | Intelligent Systems (Artificial intelligence) (Charles P. Friedman, PhD – program director) |

APPOINTMENTS and POSITIONS

ACADEMIC

| Years Inclusive | Name and Location of Institution | Rank/Title |
|------------------------|--|---|
| 08/1991 – 06/1996 | University of Illinois at Urbana-Champaign, Urbana, IL | Research and teaching assistant in Physiology |
| 07/1999 – 06/2000 | Boston University, Boston, MA | Chief Resident in Neurology |
| 08/2001 – 10/2006 | University of Pittsburgh School of Medicine Center for Biomedical Informatics and the Intelligent Systems Program | Fellow in Biomedical Informatics |
| 11/2006 – 08/2007 | University of Pittsburgh School of Medicine Department of Biomedical Informatics | Visiting Assistant Professor |
| 09/2007 – 10/2015 | University of Pittsburgh School of Medicine Department of Biomedical Informatics | Assistant Professor |
| 01/2008 – 10/2015 | University of Pittsburgh School of Computing and Information, Intelligent Systems Program | Assistant Professor (secondary appointment) |
| 06/2010 – 10/2015 | University of Pittsburgh Clinical and Translational Science Institute | Assistant Professor (secondary appointment) |
| 11/2015 – 02/2023 | University of Pittsburgh School of Medicine Department of Biomedical Informatics | Associate Professor with Tenure |
| 11/2015 – present | University of Pittsburgh School of Computing and Information, Intelligent Systems Program | Associate Professor (secondary appointment) |
| 11/2015 – present | University of Pittsburgh Clinical and Translational Science Institute | Associate Professor (secondary appointment) |
| 03/2023 – present | University of Pittsburgh School of Medicine Department of Biomedical Informatics | Professor with Tenure |

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| 03/2023 – present | University of Pittsburgh School of Medicine Department of Biomedical Informatics | Vice Chair of Clinical Informatics |
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NON-ACADEMIC

| Years Inclusive | Name and Location of Institution | Rank/Title |
|------------------------|---|--|
| 06/2008 – 05/2018 | University of Pittsburgh School of Medicine Medical Scientist Training Program (MSTP) | Biomedical Informatics Program Director |
| 06/2008 – 05/2018 | Graduate Training Program in Intelligent Systems, University of Pittsburgh School of Computing and Information | Biomedical Informatics Representative |
| 05/2009 – 12/2016 | University of Pittsburgh School of Medicine Biomedical Informatics Training Program | Associate Director |
| 05/2009 – 12/2016 | Curriculum Committee, University of Pittsburgh School of Medicine Biomedical Informatics Training Program | Chair |
| 04/2014 – 12/2015 | RoboClinics, Inc., Fernley, NV | Chief Medical Advisor |
| 07/2015 – 06/2016 | University of Pittsburgh, Clinical and Translational Science Institute | Co-Director, Biomedical Informatics Core |
| 07/2016 – present | University of Pittsburgh, Clinical and Translational Science Institute | Director, Biomedical Informatics Core |
| 07/2016 – 11/2022 | Center for Clinical Research Informatics (CCRI), Department of Biomedical Informatics | Director |
| 01/2017 – present | Institute for Clinical Research Education (ICRE), University of Pittsburgh School of Medicine | Biomedical Informatics Representative |
| 10/2018 – present | Kvatchii, Ltd., UK | Co-founder |
| 04/2021 – present | READE.ai, Inc., USA | Co-founder & Chief Scientific Officer |
| 03/2023 – present | Center for Clinical Artificial Intelligence (CCAI) | Director |
| 08/2023 – present | ThetaRho, Inc., USA | Chief Medical Officer |
| 09/2023 – present | CarePoint Health Advisory Board | Member |

CERTIFICATION and LICENSURE

SPECIALTY CERTIFICATION

| Certifying Board | Date |
|---|-------------|
| Pending; Board Eligible in Psychiatry and Neurology | |

MEDICAL or OTHER PROFESSIONAL LICENSURE

| Licensing Board/State | Date |
|--|-------------|
| Educational Commission for Foreign Medical Graduates | 01/28/1992 |
| Federation Licensing Examination (FLEX) | 06/15/1993 |
| United States Medical Licensing Examination (USMLE) Step 1 | 06/14/1995 |
| United States Medical Licensing Examination (USMLE) Step 2 | 08/30/1995 |

MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES

| Organization | Year |
|---|--------------------------------|
| American Academy of Neurology (AAN) | 1997 – 2001, 2018 – present |
| American Medical Informatics Association (AMIA) | 2001 – present |
| Association for the Advancement of Artificial Intelligence (AAAI) | 2001 – present |
| Association of Computing Machinery (ACM) | 2015 – present |
| American Association for the Advancement of Science (AAAS) | 2016 – present |
| American Clinical Neurophysiology Society (ACNS) | 2020 – present |
| Indian Association for Medical Informatics (IAMI) | 2022 – present |
| Australasian Institute of Digital Health (AIDH) | 2022 – present |
| Institute of Electrical and Electronics Engineers (IEEE) | 2023 – present |
| IEEE Engineering in Medicine and Biology Society (EMBS) | 2023 – present |
| American Heart Association (AHA) | 2023 – present |

Fellowship at Organization

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| Fellow of the American Medical Informatics Association (FAMIA) | 2021 – present |
| Fellow of the Australasian Institute of Digital Health (FAIDH) | 2022 – present |
| Fellow of the American College of Medical Informatics (FACMI) | 2023 – present |

HONORS

| Title of Award | Year |
|---|-------------|
| National Science Talent Search Scholarship, Government of India | 1981 – 1991 |

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| Excellent Teacher, School of Life Sciences, University of Illinois at Champaign-Urbana, Urbana, IL | 1995 – 1996 |
| Chief Resident, Department of Neurology, Boston University, Boston, MA | 2000 – 2001 |
| National Library of Medicine Fellow in Biomedical Informatics, University of Pittsburgh Medical School, Pittsburgh, PA | 2001 – 2006 |
| Distinguished Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, Washington, DC (for a co-authored paper) | 2005 |
| Third place, American Medical Informatics Association (AMIA) Annual Symposium Student Paper Competition, Washington, DC (for a first-authored paper) | 2005 |
| Finalist for the Best Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, Chicago, IL (for a co-authored paper) | 2007 |
| Homer R. Warner Research Award, American Medical Informatics Association (AMIA) Annual Symposium, Washington, DC (for a co-authored paper) | 2010 |
| Marco Ramoni Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2011 |
| Distinguished Paper Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2012 |
| Distinguished Paper Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2013 |
| Inaugural Hattie Becich Award for Best Teacher, Department of Biomedical Informatics, University of Pittsburgh Medical School, Pittsburgh, PA | 2014 |
| Martin Epstein Award and First place, American Medical Informatics Association (AMIA) Annual Symposium Student Paper Competition, Washington, DC (for a last-authored paper) | 2015 |
| First place, AMIA Joint Summits Clinical Research Informatics Student Paper Competition, San Francisco, CA (for a co-authored paper) | 2017 |
| First place, AMIA Informatics Summit Clinical Research Informatics Student Paper Competition, San Francisco, CA (for a co-authored paper) | 2018 |
| Outstanding Paper Award at the Science of Team Science (SciTS) Conference, Galveston, TX (for a co-authored paper) | 2018 |
| Allen Humphrey Excellence in Mentoring Award, University of Pittsburgh Medical School, Pittsburgh, PA (presented to a Deans Summer Research (DSRP) mentor who demonstrated exemplary care and commitment in all aspects of DSRP student mentoring) | 2018 |
| Elected as Member of i2b2 transSMART Foundation, Boston, MA | 2018 |
| Finalist for the Distinguished Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, CA (for a last-authored paper) | 2018 |

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| Featured presentation at the Machine Learning & Artificial Intelligence Application in Translational Science: Un-Meeting by the Center for Leading Innovation & Collaboration, Rochester, NY | 2019 |
| Medical Student Research Mentoring Merit Award University of Pittsburgh Medical School, Pittsburgh, PA (presented to a Longitudinal Research Project (LRP) mentor of a graduating Pitt Med student in recognition for outstanding mentoring over the course of the LRP) | 2021 |
| Elected as Fellow of the American Medical Informatics Association (FAMIA) | 2021 |
| Elected as Fellow of the Australasian Institute of Digital Health (FAIDH) | 2022 |
| Elected as Fellow of the American College of Medical Informatics (FACMI) | 2023 |
| Member of the National Academies of Sciences, Engineering, and Medicine's (NASEM) ad hoc committee to assess the use of the social constructs of race and ethnicity in biomedical research | 2023 |

PUBLICATIONS

1. ORIGINAL PEER REVIEWED ARTICLES

Original Peer Reviewed Journal Articles

1. Bartling WC, Schleyer TK, **Visweswaran S**. Retrieval and classification of dental research articles. *Advances in Dental Research*. 2003 Dec; 17:115-20. PMID: 15126221.
2. McEllistrem CM, Noller AC, **Visweswaran S**, Adams JM, Harrison LH. Serotype 14 variants of the France 9V-3 Clone from Baltimore, Maryland can be differentiated by the cpsB gene. *Journal of Clinical Microbiology*. 2004 Jan; 42(1):250-6. PMID: 14715761; PMCID: PMC321660.
3. McEllistrem MC, Adams JM, **Visweswaran S**, Khan S. Detection of very-high-level penicillin resistant variants of the Tennessee 23F-4 clone via single and serial transformations with four serotype 19A international pneumococcal clones. *Microbial Drug Resistance*. 2005 Fall; 11(3):271-8. PMID: 16201931.
4. Wong AI, Stephens SB, Aspinall, MB, **Visweswaran S**, Hanlon JT, Handler SM. Assessing the quality of prescribing and monitoring erythropoiesis stimulating agents in the nursing home setting. *Journal of the American Medical Directors*. 2009 Jul; 10(6):436-9. PMID: 19560723; PMCID: PMC2846620.
5. Lustgarten JL, **Visweswaran S**, Bowser RP, Hogan WR, Gopalakrishnan V. Knowledge-based variable selection for rule learning on proteomic data. *BMC Bioinformatics*. 2009 Sep 17; 10 Suppl 9:S16. PMID: 19761570; PMCID: PMC2745687.
6. Kalamangalam GP, Morris HH, Mani J, Lachhwani DK, **Visweswaran S**, Bingaman WM. Noninvasive correlates of subdural grid electrographic outcome. *Journal of Clinical Neurophysiology*. 2009 Oct; 26(5):333-41. PMID: 20168131.
7. Gopalakrishnan V, Lustgarten JL, **Visweswaran S**, Cooper GF. Bayesian rule learning for biomedical data mining. *Bioinformatics*. 2010 Mar 1; 26(5):668-75. PMID: 20080512; PMCID: PMC2852212.

8. **Visweswaran S**, Angus DC, Hsieh M, Weissfeld L, Yealy D, Cooper GF. Learning patient-specific predictive models from clinical data. *Journal of Biomedical Informatics*. 2010 Oct; 43(5):669-85. PMID: 20450985; PMCID: PMC2933959.
9. Jiang X, Barmada MM, **Visweswaran S**. Identifying genetic Interactions in genome-wide data using Bayesian networks. *Genetic Epidemiology*. 2010 Sep; 34(6):575-81. PMID: 20568290; PMCID: PMC3931553.
10. **Visweswaran S**, Cooper GF. Learning instance-specific predictive models. *Journal of Machine Learning Research*. 2010 Dec 1; 11:3369–3405. PMID: 25045325; PMCID: PMC4102007.
11. Jiang X, Neapolitan RE, Barmada MM, **Visweswaran S**. Learning genetic epistasis using Bayesian network scoring criteria. *BMC Bioinformatics*. 2011 Mar 31; 12:89. PMID: 21453508; PMCID: PMC3080825.
12. Wei W, **Visweswaran S**, Cooper GF. The application of naive Bayes model averaging to predict Alzheimer’s disease from genome-wide data. *Journal of the American Medical Informatics Association*. 2011 Jul-Aug; 18(4):370-5. PMID: 21672907; PMCID: PMC3128400.¹
13. Kane-Gill SL, **Visweswaran S**, Saul MI, Wong AI, Penrod L, Handler SM. Computerized detection of adverse drug reactions in the medical intensive care unit. *International Journal of Medical Informatics*. 2011 Aug; 80(8):570-8. PMID: 21621453; PMCID: PMC3139253.
14. Lustgarten JL*, **Visweswaran S***, Gopalakrishnan V, Cooper GF. Application of an efficient Bayesian discretization method to biomedical data. *BMC Bioinformatics*. 2011 Jul 28; 12:309. PMID: 21798039; PMCID: PMC3162539. *Shared first authorship.
15. Mowery D, Weibe J, **Visweswaran S**, Harkema H, Chapman WW. Building an automated SOAP classifier for emergency department reports. *Journal of Biomedical Informatics*. 2012 Feb; 45(1):71-81. PMID: 21925286; PMCID: PMC3267853.
16. Bhavnani SK, Bellala G, Victor S, Bassler K, **Visweswaran S**. The role of complementary bipartite visual analytical representations in the analysis of SNPs: a case study in ancestral informative markers. *Journal of the American Medical Informatics Association*. 2012 Jun 1; 19(e1):e5-e12. PMID: 22718038; PMCID: PMC3392853.²
17. Strobl EV, Eack SM, Swaminathan V, **Visweswaran S**. Predicting the risk of psychosis onset: Advances and prospects. *Early Intervention in Psychiatry*. 2012 Nov;6(4):368-79. PMID: 22776068; PMCID: PMC3470783.
18. Stokes M, **Visweswaran S**. Application of a spatially-weighted Relief algorithm for ranking genetic predictors of disease. *BioData Mining*. 2012 Dec 3; 5(1):20. PMID: 23198930; PMCID: PMC3554553.
19. Hauskrecht M, Batal I, Valko M, **Visweswaran S**, Cooper GF, Clermont G. Outlier detection for patient monitoring and alerting. *Journal of Biomedical Informatics*. 2013 Feb; 46(1):47-55. PMID: 22944172; PMCID: PMC3567774.

¹ Received the Marco Ramoni Distinguished Paper Award for Translational Bioinformatics and selected as one of the best papers at the AMIA Summit on Translational Bioinformatics, 2011.

² Received a Distinguished Paper Award for Translational Bioinformatics and selected as one of the best papers at the AMIA Summit on Translational Bioinformatics, 2012.

20. Kalamangalam GP, Pestana Knight EM, **Visweswaran S**, Gupta A. Noninvasive predictors of subdural grid seizure localization in children with nonlesional focal epilepsy. *Journal of Clinical Neurophysiology*. 2013 Feb; 30(1):45-50. PMID: 23377441.
21. Pineda AL, Tsui FC, **Visweswaran S**, Cooper GF. Detection of patients with influenza syndrome using machine-learning models learned from Emergency Department reports. *Online Journal of Public Health Informatics*. 2013 Apr 4; 5(1):e41. PMCID: PMC3692886.
22. Kimmel C, **Visweswaran S**. An algorithm for network-based gene prioritization that encodes knowledge both in nodes and in links. *PLoS One*. 2013 Nov 19; 8(11):e79564. PMID: 24260251; PMCID: PMC3834271.
23. Stokes ME, Barmada MM, Kamboh MI, **Visweswaran S**. The application of network label propagation to rank biomarkers in genome-wide Alzheimer's data. *BMC Genomics*. 2014 Apr 14; 15(1):282. PMID: 24731236; PMCID: PMC4234455.
24. Aflakparast M, Salimi H, Gerami A, Dubé M-P, **Visweswaran S**, Masoudi-Nejad A. Cuckoo search epistasis: a new method for exploring significant genetic interactions. *Heredity*. 2014 Jun; 112(6):666-74. PMID: 24549111; PMCID: PMC4023449.
25. Aflakparast M, Masoudi-Nejad A, Bozorgmehr JH, **Visweswaran S**. Informative Bayesian Model Selection: a method for identifying interactions in genome-wide data. *Molecular BioSystems*. 2014 Aug 26; 10(10):2654-62. PMID: 25070634.
26. Zaidi AH, Gopalakrishnan V, Kasi PM, Malhotra U, Balasubramanian J, **Visweswaran S**, Zeng X, Sun M, Bergman JJ, Bigbee WL, Jobe BA. Evaluation of a four-protein biomarker panel for detection of esophageal adenocarcinoma. *Cancer*. 2014 Dec 15; 120(24):3902-13. PMID: 25100294; PMCID: PMC4441619.
27. Jordan R, **Visweswaran S**, Gopalakrishnan V. Semi-automated literature mining to identify putative biomarkers of disease from multiple biofluids. *Journal of Clinical Bioinformatics*. 2014 Oct 23; 4:13. PMID: 25379168; PMCID: PMC4215335.
28. Floudas CS, Kamboh MI, Barmada MM, **Visweswaran S**. Identifying genetic interactions associated with late-onset Alzheimer's disease. *BioData Mining*. 2014 Dec 19; 7(1):35. PMID: 25649863; PMCID: PMC4300162.
29. Bhavnani SK, Dang B, Bellala G, Divekar R, **Visweswaran S**, Brasier A, Kurosky A. Unlocking proteomic heterogeneity in complex diseases through visual analytics. *Proteomics*. 2015 Feb 13; 15(8):1405-18. PMID: 25684269; PMCID: PMC4471338.
30. Kimmel C, **Visweswaran S**. KNGP: a network-based gene prioritization algorithm that incorporates multiple sources of knowledge. *American Journal of Bioinformatics and Computational Biology*. 2015 Apr 25; 3(1):1-4. PMID: 31245171; PMCID: PMC6594558.
31. **Visweswaran S**, Ferreira A, Cooper GF. Personalized modeling for prediction with decision-path models. *PLoS One*. 2015 Jun 22; 10(6): e0131022. PMID: 26098570; PMCID: PMC4476684.
32. Ogoe HA, **Visweswaran S**, Lu X, Gopalakrishnan V. Knowledge transfer via classification rules using functional mapping for integrative modeling of gene expression data. *BMC Bioinformatics*. 2015 Jul 23; 16:226. PMID: 26202217; PMCID: PMC4512094.

33. Pineda AL, Ye Y, **Visweswaran S**, Cooper GF, Wagner MM, Tsui FC. Comparison of machine learning classifiers for influenza detection from emergency department free text reports. *Journal of Biomedical Informatics*. 2015 Dec; 58:60-9. PMID: 26385375; PMCID: PMC4684714.
34. Strobl EV, **Visweswaran S**. Markov boundary discovery with ridge regularized linear models. *Journal of Causal Inference*. 2016 Mar; 4(1):31-48. PMID: 27170915; PMCID: PMC4861166.
35. Pineda AL, Ogoe HA, Balasubramanian JB, Escareño CR, **Visweswaran S**, Herman JG, Gopalakrishnan V. On predicting lung cancer subtypes using 'omic' data from tumor and tumor-adjacent histologically-normal tissue. *BMC Cancer*. 2016 Mar 4; 16(1):184. PMID: 26944944; PMCID: PMC4778315.
36. Tenenbaum JD, Avillach P, Benham-Hutchins M, Breitenstein MK, Crowgey EL, Hoffman MA, Jiang X, Madhavan S, Mattison JE, Radhakrishnan N, Ray B, Shin D, **Visweswaran S**, Zhao Z, Freimuth RR. An informatics research agenda to support precision medicine: 7 key areas. *Journal of the American Medical Informatics Association*. 2016 Jul; 23(4):791-5. PMID: 27107452; PMCID: PMC4926738.
37. Hauskrecht M, Batal I, Hong C, Cooper GF, **Visweswaran S**, Clermont G. Outlier-based detection of unusual patient-management actions: an ICU study. *Journal of Biomedical Informatics*. 2016 Dec; 64:211-221. PMID: 27720983; PMCID: PMC5207478.
38. Lustgarten JL, Balasubramanian JB, **Visweswaran S**, Gopalakrishnan V. Learning parsimonious classification rules from gene expression data using Bayesian networks with local structure. *Data*. 2017 Mar; 2(1). PMID: 28331847; PMCID: PMC5358670.
39. Culbertson A, Goel S, Madden M, Safaeinili N, Jackson KL, Carton T, Waitman R, Liu M, Krishnamurthy A, Hall L, Cappella N, **Visweswaran S**, Becich MJ, Applegate R, Bernstam E, Rothman R, Matheny M, Lipori G, Bian J, Hogan W, Bell D, Martin A, Grannis S, Klann J, Sutphen R, O'Hara AB, Kho A. The building blocks of interoperability: a multisite analysis of patient demographic attributes available for matching. *Applied Clinical Informatics*. 2017 Apr 5; 8(2):322-336. PMID: 28378025; PMCID: PMC6241737.
40. Castro SM, Tseytlin E, Medvedeva O, Mitchell K, **Visweswaran S**, Bekhuis T, Jacobson RS. Automated annotation and classification of BI-RADS assessment from radiology reports. *Journal of Biomedical Informatics*. 2017 May; 69:177-187. PMID: 28428140; PMCID: PMC5706448.
41. Tenenbaum JD, Bhuvaneshwar K, Gagliardi JP, Hollis KF, Jia P, Ma L, Nagarajan R, Rakesh G, Subbian V, **Visweswaran S**, Zhao Z, Rozenblit L. Translational bioinformatics in mental health: open access data sources and computational biomarker discovery. *Briefings in Bioinformatics*. 2017 Nov 27; 20(3):842-56. PMID: 29186302; PMCID: PMC6585382.
42. Bhavnani SK, Dang B, Kilaru V, Caro M, **Visweswaran S**, Saade G, Smith AK, Menon R. Methylation differences reveal heterogeneity in preterm pathophysiology: results from bipartite network analyses. *Journal of Perinatal Medicine*. 2018 Jul 26; 46(5):509-521. PMID: 28665803; PMCID: PMC5971156.
43. Strobl EV, **Visweswaran S**, Spirtes PL. Fast causal inference with non-random missingness by test-wise deletion. *International Journal of Data Science and Analytics*. 2018 Aug; 6(1):47-62. PMID:31321289; PMCID: PMC6638553.
44. **Visweswaran S**, Becich MJ, D'Itri VS, Sendro ER, MacFadden D, Anderson NR, Allen KA, Ranganathan D, Murphy SN, Morrato EH, Pincus HA, Toto R, Firestein GS, Nadler LM, Reis SE. Accrual to Clinical Trials (ACT): a Clinical and Translational Science Award Consortium network. *JAMIA Open*. 2018 Oct; 1(2):147-152. PMID: 30474072; PMCID: PMC6241502.

45. Bhavnani SK, **Visweswaran S**, Divekar R, Brasier A. Towards team-centered informatics: accelerating innovation in multidisciplinary scientific teams through visual analytics. *The Journal of Applied Behavioral Science*. 2019 Mar; 55(1):50-72.
46. Strobl E, Zhang K, **Visweswaran S**. Approximate kernel-based conditional independence tests for fast non-parametric causal discovery. *Journal of Causal Inference*. 2019 Mar; 4(1):31-48.
47. Seymour CW, Kennedy J, Wang S, Chang C-CH, Elliot CF, Xu Z, Berry S, Clermont G, Cooper G, Gomez H, Huang DT, Kellum JA, Mi Q, Opal SM, Talisa V, Poll T, **Visweswaran S**, Vodovotz Y, Weiss JC, Yealy DM, Yende S, Angus DC. Derivation, validation, and potential treatment implications of novel clinical phenotypes for sepsis. *JAMA*. 2019 May 28; 321(20):2003-17. PMID: 31104070; PMCID: PMC6537818.
48. All of Us Research Program Investigators*, Denny JC, Rutter JL, Goldstein DB, Philippakis A, Smoller JW, Jenkins G, Dishman E. The “All of Us” Research Program. *New England Journal of Medicine*. 2019 Aug 15; 381(7):668-76. PMID: 31412182; PMCID: PMC8291101. *Listed as one of All of Us Principal Investigators.
49. Trivedi G, Dadashzadeh E, Handzel R, Chapman W, **Visweswaran S**, Hochheiser H. Interactive NLP in clinical care: identifying incidental findings in radiology reports. *Applied Clinical Informatics*. 2019 Aug; 10(4):655-669. PMID: 31486057; PMCID: PMC6727024.
50. Trivedi G, Hong C, Dadashzadeh E, Handzel R, Hochheiser H, **Visweswaran S**. Identifying incidental findings from radiology reports of trauma patients: an evaluation of automated feature representation methods. *International Journal of Medical Informatics*. 2019 Sep 1; 129:81-7. PMID: 31445293; PMCID: PMC6717529.
51. Strobl EV, Spirtes P, **Visweswaran S**. Estimating and controlling the False Discovery Rate of the PC algorithm using edge-specific p-values. *ACM Transactions on Intelligent Systems and Technology*. 2019 Oct 10; 10(5):46.
52. Tajgardoon M, Samayamuthu M, Calzoni L, **Visweswaran S**. Patient-specific explanations for predictions of risk outcomes. *ACI Open*. 2019; 03(02):e88-e97. PMID: 34095753; PMCID: PMC8174671.
53. King AJ, Cooper GF, Clermont G, Hochheiser H, Hauskrecht M, Sittig DF, **Visweswaran S**. Using machine learning to selectively highlight patient information. *Journal of Biomedical Informatics*. 2019 Oct; 29:103327. PMID: 31676461; PMCID: PMC6932869.
54. King AJ, Cooper GF, Clermont G, Hochheiser H, Hauskrecht M, Sittig DF, **Visweswaran S**. Leveraging eye tracking to prioritize relevant medical record data: comparative machine learning study. *Journal of Medical Internet Research*. 2020; 22(4):e15876. PMID: 32238342; PMCID: PMC7163414.
55. **Visweswaran S**, Colditz JB, O’Halloran P, Han NR, Taneja SB, Welling J, Chu KH, Sidani JE, Primack BA. Machine learning classifiers for Twitter surveillance of vaping: comparative machine learning study. *Journal of Medical Internet Research*. 2020; 22(8):e17478. PMID: 32784184; PMCID: PMC7450367.
56. Yu K, **Visweswaran S**, Batmanghelich K. Semi-supervised hierarchical drug embedding in hyperbolic space. *Journal of Chemical Information and Modeling*. 2020 Dec 28; 60(12):5647-5657. PMID: 33140969; PMCID: PMC7943198.
57. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Graphical presentations of clinical data in a Learning Electronic Medical Record. *Applied Clinical Informatics*. 2020 Aug; 11(04):680-691. PMID: 33058103; PMCID: PMC7560537.

58. Bhavnani SK, Dang B, Penton R, **Visweswaran S**, Bassler KE, Chen T, Raji M, Divekar R, Zuhour R, Karmarkar A, Kuo Y-F, Ottenbacher KJ. How high-risk comorbidities co-occur in readmitted patients with hip fracture: big data visual analytical approach. *JMIR Medical Informatics*. 2020; 8(10):e13567. PMID: 33103657; PMCID: PMC7652691.
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22. Stokes ME, **Visweswaran S**. An efficient genetic model selection algorithm to predict outcomes from genomic data. In: *AMIA Joint Summits on Translational Science Proceedings*. 2013 Mar. (Poster abstract)
23. Bhavnani SK, Drake J, Dang B, **Visweswaran S**. Outlier detection through bipartite visual analytics. In: *AMIA Joint Summits Translational Science Proceedings*. 2013 Mar. (Podium presentation abstract)
24. Pineda AL, **Visweswaran S**, Cooper GF, Gopalakrishnan V. Machine learning classification of non-small cell lung cancer subtypes from gene methylation data. Presented at the *Great Lakes Bioinformatics Conference*. 2013 May.
25. Hauskrecht M, **Visweswaran S**, Cooper GF, Clermont G. Data-driven identification of unusual clinical actions in the ICU. In: *AMIA Annual Symposium Proceedings*. 2013 Nov 16; 2013. (Podium presentation abstract)
26. Dang B, **Visweswaran S**, Mejias A, Divekar R, Bhavnani SK. Revealing heterogeneity in gene regulation through network edge coloring: a case study in pediatric pulmonary infections. In: *AMIA Joint Summits Translational Science Proceedings*. 2014 Apr. (Poster abstract)
27. Pineda AL, Escareño CR, **Visweswaran S**, Gopalakrishnan V. Multi-omic Bayesian classification of lung adenocarcinomas and squamous cell carcinomas. In: *Proceedings of the 1st International Summer Symposium on Systems Biology*. 2014 Aug.
28. Bhavnani SK, Dang B, **Visweswaran S**, Divekar R. Inter-network cluster replication: a case study in co-occurring comorbidities. In: *AMIA Joint Summits Translational Science Proceedings*. 2015 Mar 24. (Podium presentation abstract)
29. Amin W, Borromeo C, Saul M, Becich MJ, **Visweswaran S**. Informatics synergies between PaTH and ACT networks. In: *AMIA Joint Summits Translational Science Proceedings*. 2015 Mar 25; 2015:294-5. (Poster abstract)
30. Bhavnani SK, **Visweswaran S**, Divekar R, Bellala G. Where is the science in big data visual analytics? From pretty pictures to transformative biomedical discoveries. In: *AMIA Joint Summits on Translational Science Proceedings*. 2015 Mar 26; 2015:19-21. (Panel presentation abstract)
31. Norman BA, Odukoya OK, **Visweswaran S**. Modeling the work flow of abandoned e-prescriptions in retail chain pharmacies. In: *Industrial and Systems Engineering Research Conference*. 2015 May.
32. **Visweswaran S**, Tenenbaum J, Gouripeddi R. Secondary use of data for research - EHR, omics and environmental data. In: *AMIA Joint Summits on Translational Science Proceedings*. 2016 Mar 22. (Panel presentation abstract)
33. Bhavnani SK, Dang B, Chen T, Bassler K, Divekar R, **Visweswaran S**. Replicability of co-occurring comorbidities: implications for precision medicine. In: *AMIA Joint Summits on Translational Science Proceedings*. 2016 Mar 23. (Poster abstract)
34. Khatri S, Shirey W, Tajgardoon M, **Visweswaran S**. Patient-specific explanations of risk predictions in community acquired pneumonia. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 6. (Poster abstract)
35. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Exploring novel graphical representations of clinical data in a learning EMR. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 7. (Poster abstract)

36. Bhavnani SK, Ayyaswamy A, Chen T, **Visweswaran S**, Bellala G, Bassler KE. Vicinity exploration: enabling user-driven visual search of multiple machine learning models for precision medicine. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 7. (Systems demonstration abstract)
37. **Visweswaran S**. Developing a Learning Electronic Medical Record System. In: *AMIA Clinical Informatics Conference Proceedings*. 2018 May 9. (Podium talk abstract)
38. Trivedi G, Handzel R, **Visweswaran S**, Chapman W, Hochheiser H. An interactive NLP tool for signout note preparation. In: *2018 IEEE International Conference on Healthcare Informatics (ICHI)*. 2018 Jun 4-7; 426-428. (Presentation abstract)
39. Tajgardo M, **Visweswaran S**. Patient-specific explanations from risk prediction models. In: *AMIA Clinical Informatics Conference Proceedings*. 2018 May 9. (Podium talk abstract)
40. Bhavnani SK, Ameredes B, **Visweswaran S**. Team-centric informatics: leveraging team science for designing effective informatics solutions. In: *Science of Team Science (SciTS) Conference*. 2018 May 21-24.
41. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Design of a Learning Electronic Medical Record: a qualitative study of ICU clinicians' information needs and practices. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 5.
42. Borromeo C, Shirey W, Morris M, Zhang Y, Samayamuthu M, **Visweswaran S**. Workflow for developing i2b2 ontologies from source terminologies in ACT. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 5.
43. Posada JD, Shi L, Castro S, **Visweswaran S**, Ryan N, Harkema H, Tsui F. Social context sentence classification from psychiatric reports using positive and unlabeled learning. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
44. Zhang Y, Morris M, **Visweswaran S**. A computable phenotype library plugin for i2b2. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
45. Borromeo C, Shirey W, Cappella N, **Visweswaran S**, Silverstein JC, Becich MJ. Software package to load data from REDCap to PCORnet CDM 4.0. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
46. Bhavnani SK, Sellappan R, Joshi S, Starkey J, Chan W, Chen T, **Visweswaran S**. Utility of visual analytics for identifying patient subgroups in EMRs: insights for accelerating precision medicine. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
47. Visweswaran S, Murphy SN, MacFadden D, Anderson NR. Accrual to Clinical Trials (ACT): A Clinical and Translational Science Award Consortium Network. In: *AMIA Joint Summits on Translational Science*. 2019 Mar. (Panel presentation abstract)
48. **Visweswaran S**. Using eye-tracking to support a learning electronic medical record system. In: *AMIA Clinical Informatics Conference Proceedings*. 2019 May 1. (Podium talk abstract)
49. King AJ, **Visweswaran S**, Hochheiser H, Clermont G, Cooper GF. Insights from a dissertation on the development of a Learning Electronic Medical Record System: data-driven, context-aware learning. In: *AMIA Annual Symposium Proceedings*. 2019 Nov 18. (Poster abstract)

50. Bhavnani SK, **Visweswaran S**, Kummerfeld E, Clark C, Penton R. Team-centered informatics: a necessary adaptation to translational and implementation science? In: *AMIA Annual Symposium Proceedings*. 2019 Nov 19. (Panel presentation abstract)
51. Natarajan K, Carroll R, Campion TR, Grand JM, **Visweswaran S**. Curating EHR data in the All of Us Research Program. In: *AMIA Annual Symposium Proceedings*. 2019 Nov 19. (Panel presentation abstract)
52. Walker LW, Nowalk AJ, **Visweswaran S**. Machine learning can predict outcomes in pediatric central line-associated bloodstream infection. In: *AMIA Clinical Informatics Conference Proceedings*. 2020 May 20. (Virtual) (Podium talk abstract)
53. Murphy SN, Gainer V, **Visweswaran S**, Morris M, Weber GM, McFadden D, Klann J. Mobilizing the Accrual to Clinical Trials (ACT) network for Covid-19 research (and beyond). In: *AMIA Informatics Summit Proceedings*. 2021 Mar 24. (Virtual) (Ignite talk abstract)
54. **Visweswaran S**, Samayamuthu MJ, Morris M, Weber GM, MacFadden D, Trevett P, Klann JG, Gainer V, Murphy SN. A COVID-19 application ontology for the ACT network. In: *AMIA Informatics Summit Proceedings*. 2021 Mar 24. (Virtual) (Podium presentation abstract)
55. Johnson A, Cooper GF, **Visweswaran S**. Patient-specific modeling with lazy Random Forest (LazyRF). In: *AMIA Annual Symposium Proceedings*. 2021 Oct 26. (Virtual) (Poster abstract)
56. Perez EC, **Visweswaran S**, Hochheiser H. Comparison of population-wide explanations for predicting the outcomes of patients with community-acquired pneumonia. In: *AMIA Annual Symposium Proceedings*. 2021 Nov 1. (Poster abstract)
57. Klann J, Handerson D, Visweswaran S, Estiri H, Murphy SN. Ensuring quality: a core competency of federated EHR data networks. In: *AMIA Informatics Summit Proceedings*. 2022 Mar 23. (Panel presentation abstract)
58. **Visweswaran S**, Morris M. Want to identify cohorts seamlessly across data models? Try ACT. Ignite talk at the AMIA Informatics Summit In: *AMIA Informatics Summit Proceedings*. 2022 Mar 23. (Ignite talk abstract)
59. Li C, Dilan IO, **Visweswaran S**, Becich MJ, Jiang X, Boyce RD. Developing and evaluation of computational phenotypes of metastatic breast cancer using All of Us data. In: *AMIA Annual Symposium Proceedings*. 2022 Nov 7. (Poster abstract)
60. Harle HA, Meeker D, **Visweswaran S**, Campion TR, Knosp BM. Delivering real world patient data for clinical and translational research: approaches from four institutions. In: *AMIA Annual Symposium Proceedings*. 2022 Nov 9. (Panel presentation abstract)
61. Pedapati V, Du K, Mina A, Bradley A, Espino J, Batmanghelich K, Thirumala P, **Visweswaran S**. Quantitative EEG changes in carotid endarterectomy correlated with ischemia. In: *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*. 2022 Dec 3. (Poster abstract)
62. Du K, Pedapati V, Mina A, Bradley A, Espino J, Batmanghelich K, Thirumala P, **Visweswaran S**. EEG changes correlated with ischemia across the sexes in carotid endarterectomy. In: *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*. 2022 Dec 3. (Poster abstract)

63. Walker LW, Norwalk AJ, **Visweswaran S**. Machine learning model interpretation tools reveal sub-populations with differing predictors in a clinical prediction model. In: *AMIA Informatics Summit Proceedings*. 2023 Mar 13. (Poster abstract)
64. Hutch MR, Son J, Le TT, Hong C, Wang X, Abad ZHS, The Consortium for Clinical Characterization of COVID-19 by EHR (4CE), **Visweswaran S**, Cai T, Luo Y, Xia Z. Neurological diagnoses in hospitalized COVID-19 patients associated with adverse outcomes: a multinational cohort study. In: *AMIA Informatics Summit Proceedings*. 2023 Mar 14. (Podium presentation abstract)
65. Sadhu EM, Samayamuthu MJ, **Visweswaran S**. LOINC codes that may contain personally identifiable information. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
66. Bradley A, Merlin J, Escott P, Ghani R, Silverstein J, **Visweswaran S**, Arnold J. Machine learning to detect opioid misuse from primary care notes. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
67. Anderson JW, Shaikh N, **Visweswaran S**. Assessing racial bias in clinical prediction for urinary tract infections. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)¹³
68. Bui K, Morris M, **Visweswaran S**. An i2b2 plugin for installing ontologies. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
69. Claudio EP, **Visweswaran S**, Hochheiser H. User needs inquiries for explainable clinical decision support interfaces. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Poster abstract)
70. Klann J, Henderson D, Morris M, Estiri H, Weber G, Keogh D, **Visweswaran S**, Murphy S. Enriching electronic-health-record cohorts by identifying patients with complete data. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Podium presentation abstract)
71. Bhavnani SK, Zhang W, Bao D, Kuo Y-F, Schmidt S, Pappadis MR, Bokov A, Reistetter T, **Visweswaran S***, Downer B*. Subtyping social determinants of health in All of Us: opportunities and challenges for designing precision interventions. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Podium presentation abstract) *Shared senior authorship.
72. Samayamuthu MJ, Sadhu EM, Anderson JW, **Visweswaran S**. A survey of clinical algorithms with race. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Poster abstract)
73. Espino JU, **Visweswaran S**, Cooper G. Effects of De-identification on named entity recognition of emergency department reports. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Poster abstract)
74. Bhavnani SK, Solod A, Ajewole V, Hunter R, Schmidt S, Pappadis MR, Reistetter T, **Visweswaran S**. Deep cluster interpretation of SDoH subtypes: towards human-centered AI systems. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Podium presentation abstract)
75. Wen A, Sohn S, **Visweswaran S**, Wang Y, Liu H. On federated development and deployment of post-market active surveillance for medical device safety: a discussion on opportunities and challenges. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Panel presentation abstract)

7. PREPRINTS

¹³ Finalist for the Best Poster Award at the AMIA Annual Symposium, 2023.

1. Mohammad HA, Sivarajkumar S, Viggiano S, Oniani D, **Visweswaran S**, Wang Y. Extraction of sleep information from clinical notes of Alzheimer's disease patients using natural language processing. *medRxiv*; 2022. doi: <https://doi.org/10.1101/2022.03.29.22273078>.
2. SW Shaffran, F Gao, PE Denny, BM Aldhahwani, A Bove, **S Visweswaran**, Wang Y. Extracting physical rehabilitation exercise information from clinical notes: a comparison of rule-based and machine learning natural language processing techniques. *arXiv preprint arXiv: 2303.13466*. 2023 Mar 22.
3. Bhavnani SK, Zhang W, Bao D, Raji M, Ajewole V, Hunter R, Kuo Y-F, Schmidt S, Pappadis MR, Bokov A, Reistetter T, **Visweswaran S**, Downer B. Subtyping social determinants of health in All of Us: opportunities and challenges in integrating multiple datatypes for precision medicine. *medRxiv*; 2023. doi: <https://doi.org/10.1101/2023.01.27.23285125>.
4. Maripuri M, Dey AT, Honerlaw JP, Hong C, Ho YL, Tanukonda V, Chen AW, Panickan VA, Wang X, Yang D, Zhang HG, Yang D, Samayamuthu MJ, Morris M, **Visweswaran S**, Beaulieu-Jones BR, Ramoni RB, Muralidhar S, Gaziano MJ, Liao KP, Xia Z, Brat GA, Cai T, Cho K. Characterization of Long COVID definitions and clinical coding practices. *medRxiv*; 2023. doi: <https://doi.org/10.1101/2023.10.04.23296301>.
5. **Visweswaran S**, Sadhu EM, Morris MM, Samayamuthu MJ. Clinical algorithms with race: an online database. *medRxiv*. 2023. doi: <https://doi.org/10.1101/2023.07.04.23292231>. PMID: 37461462; PMCID: PMC10350134.
6. Sivarajkumar S, Kelley M, Samolyk-Mazzanti A, **Visweswaran S**, Wang Y. An empirical evaluation of prompting strategies for large language models in zero-shot clinical natural language processing. *arXiv preprint arXiv:2309.08008*. 2023 Sep 14.
7. Wang Y, **Visweswaran S**, Kappor S, Kooragayalu S, Wu X. ChatGPT, enhanced with clinical practice guidelines, is a superior decision support tool. *medRxiv*; 2023. doi: <https://doi.org/10.1101/2023.08.09.23293890>.
8. **Visweswaran S**, Zhang LY, Bui K, Sadhu EM, Samayamuthu MJ, Morris MM. Sharing and reusing computable phenotype definitions. *medRxiv*. 2023 Sep 18:2023.09.17.23295681. doi: <https://doi.org/10.1101/2023.09.17.23295681>. PMID: 37790390; PMCID: PMC10543043.
9. Xu Y, Sun L, Peng W, **Visweswaran S**, Batmanghelich K. MedSyn: Text-guided anatomy-aware synthesis of high-fidelity 3D CT images. *arXiv preprint arXiv:2310.03559*. 2023 Oct 5.
10. Anderson JW, Shaikh N, **Visweswaran S**. Measuring and reducing racial bias in a pediatric urinary tract infection model. *medRxiv*; 2023. doi: <https://doi.org/10.1101/2023.09.18.23295660>.
11. Mina AI, Espino JU, Bradley AM, Thirumala PD, Batmanghelich K, **Visweswaran S**. Detecting cerebral ischemia from electroencephalography during carotid endarterectomy using machine learning. *medRxiv*; 2023. doi: <https://doi.org/10.1101/2023.10.04.23295638>.

PROFESSIONAL ACTIVITIES

TEACHING

Medical Student Teaching:

1999 – 2000 Neurology Lectures for Medical Students, Boston University School of Medicine, Boston, MA

- 2022 Fundamentals of Data Science in Health Care - 1 lecturer, Artificial Intelligence and Machine Learning in Healthcare (Personal Enrichment Course), University of Pittsburgh School of Medicine
- 2022 – present Artificial Intelligence in Medicine lecturer, Evidence Based Medicine – Applied, University of Pittsburgh School of Medicine
- 2022 – present Artificial Intelligence in Clinical Medicine lecturer, Changing Science, Changing Society: A Guide to 21st Century Medicine (MSELCT 5700), University of Pittsburgh School of Medicine

Graduate Student Teaching:

- 1995 – 1996 Teaching Assistant, Physiology laboratory course, University of Illinois at Urbana-Champaign, Urbana-Champaign, IL
- 2002 Teaching Assistant, BIOINF 2011 Probabilistic Methods for Computer-Based Decision Support, Pittsburgh Medical Informatics Training Program, University of Pittsburgh School of Medicine
- 2002 – 2003 Files, data types and variables lecturer, Programming Basics Workshop, Pittsburgh Medical Informatics Training Program, University of Pittsburgh School of Medicine
- 2007 – 2014 Instructor and Co-Director or Director, BIOINF 2011 Introduction to Health Informatics (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2009 – 2018 Genomics lecturer, BIOINF 2051 Foundations of Bioinformatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2010 – 2019 Instructor, Course Developer, and Director, BIOINF 2119 Probabilistic Methods in Artificial Intelligence (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2011 – 2018 Evaluation in medical informatics lecturer, BIOINF 2011 Foundations of Clinical and Public Health Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2011, 2013, 2015 National Science Foundation (NSF) lecturer, BIOINF 2132 Special Topics: Grant Writing in Biomedical Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2011 Introduction to artificial intelligence lecturer, Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students, University of Pittsburgh School of Medicine
- 2012 Facilitator for Medical Scientist Training Program’s course, MSTP 5290 Research Basis of Medical Knowledge, University of Pittsburgh School of Medicine
- 2012 Bayesian networks in human genetics lecturer, HUGEN 2080 Statistical Genetics, University of Pittsburgh Graduate School of Public Health

- 2013 Machine learning lecturer, CS 1571 Introduction to Artificial Intelligence, University of Pittsburgh Dietrich School of Arts and Sciences
- 2013 – 2014 Instructor, Course Developer, and Director, BIOINF 2011 Foundations of Clinical and Public Health Informatics (Online, 3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2013 – 2014 Genome-wide association studies lecturer, Computational and Systems Biology and Biomedical Informatics (CoSBBi) program for high school students, University of Pittsburgh School of Medicine
- 2015 Facilitator for University of Pittsburgh Medical Scientist Training Program’s course Ethics for Medical Scientists, University of Pittsburgh School of Medicine
- 2016 The Precision Medicine Initiative and Transforming Healthcare Data for Research lecturer, CMU 42-671 Precision Medicine for Bioengineers, Carnegie Mellon University, Pittsburgh, PA
- 2017 Instructor for breakout session on Single Cell Pathways in Causal Discovery from Biomedical Data summer Short Course, June 12-15, 2017, Carnegie Mellon University, Pittsburgh, PA
- 2018 Big Data Resources, Mining and Analysis of Patient Data lecturer, MSMPHL 2370 Drug Discovery, University of Pittsburgh School of Medicine
- 2018 The Precision Medicine Initiative and Transforming Healthcare Data for Research lecturer, CMU 42-671 Precision Medicine for Bioengineers, Carnegie Mellon University, Pittsburgh, PA
- 2018 Instructor for breakout session on Single Cell Pathways in Causal Discovery from Biomedical Data summer Short Course, June 11-15, 2018, Carnegie Mellon University, Pittsburgh, PA
- 2019 – 2020 Clinical Information Systems lecturer, BIOINF 2070 Foundations of Biomedical Informatics 1, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2020 – 2021 Instructor, Course Developer, and Director, BIOINF 2071 Foundations of Biomedical Informatics 2 (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2021 – present Decision Theory lecturer, BIOINF 2071 Foundations of Biomedical Informatics 2, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine
- 2023 – present Probabilistic Reasoning lecturer, BIOINF 2105 Artificial Intelligence for Biomedical Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine

Resident Teaching:

- 1999 – 2000 Neurology Seminars for Residents, Boston University School of Medicine, Boston, MA

Curriculum Development / Teaching Products / Media Products:

- 2008 – 2009 Led the development of inaugural graduate curriculum for the Biomedical Informatics Training Program. The curriculum established core courses in biomedical informatics, research methods, and skills taken by all students and established elective courses for personalization for advanced training.
- 2008 – 2018 Oversaw changes to the University of Pittsburgh School of Medicine Medical Scientist Training Program (MSTP) curriculum in the Biomedical Informatics Training Program.
- 2008 – 2014 Oversaw changes to the Intelligent Systems Program (Biomedical Informatics track) curriculum.
- 2010 – 2019 Developed, directed and taught a core course of the Biomedical Informatics Training Program titled BIOINF 2119 Probabilistic Methods in Artificial Intelligence (3 credits).
- 2013 – 2014 Developed, directed and taught a core online course of the Biomedical Informatics Training Program titled BIOINF 2011 Foundations of Clinical and Public Health Informatics (Online, 3 credits).
- 2017 – 2020 Worked with the Director of the Biomedical Informatics Training Program to overhaul the graduate curriculum. The overhaul was designed to achieve three key objectives: (1) emphasize the focus on the development of artificial intelligence (AI) and machine learning (ML) methods, (2) streamline the evaluation processes, and (3) reduce the time to completion of the degree.
- 2020 – present Developed, directed and taught a core course of the Biomedical Informatics Training Program titled BIOINF 2071 Foundations of Biomedical Informatics 2 (3 credits).

Mentoring:

Research Advising:

Primary Research Advisor to the following students in the Certificate Program:

- 2018 – 2019 Louisa Zhang in Biomedical Informatics; current position: Senior Data Scientist, IDEXX, Westbrook, ME
- 2018 – 2019 Malarkodi Jebathilagam Samayamuthu in Biomedical Informatics; current position: Senior Research Scientist, Department of Biomedical Informatics, University of Pittsburgh School of Medicine, Pittsburgh, PA

Primary Research Advisor to the following graduate students for the MS degree:

- 2009 – 2010 Jay Shah, MD, MS (obtained 2010) in Biomedical Informatics; current position: Nephrologist, Nephrology Associates of Central PA, Camp Hill, PA
- 2009 – 2010 Jonathan Bickel, MD, MS (obtained 2010) in Biomedical Informatics; current position: Sr Director IT Clinical Strategic Advisor, Boston Children's Hospital, Boston, MA
- 2010 – 2012 Nara Um, MD, MS (obtained 2012) in Biomedical Informatics; current position: Deputy Chief Medical Informatics Officer, Federal Electronic Health Record Modernization

- Office, Arlington, VA
- 2010 – 2012 Charalampos Floudas, MD, MS (obtained 2012) in Biomedical Informatics; current position: Head of Head and Neck Cancer therapy, Immunotherapy section, NIH, Bethesda, MD
- 2022 – present Harikesh Subramanian, MBBS (MS expected 2023) in Biomedical Informatics; current position: Assistant Professor, Department of Anesthesiology and Perioperative Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA
- 2023 – present Rahul Chaudhary, MD, MBA (MS expected 2025) in Intelligent Systems Program; current position: Cardiology Fellow, UPMC, Pittsburgh, PA

Primary Research Advisor to the following graduate students for the PhD degree:

- 2009 – 2012 Chad Kimmel, PhD (obtained 2012) in Biomedical Informatics; current position: Operations Research Analyst, iO Data Analytics LLC, OH
- 2009 – 2014 Matthew E. Stokes, MS (obtained 2011), PhD (obtained 2014) in Intelligent Systems Program; current position: Translational Medicine, Bristol Myers Squibb, Summit, NJ
- 2010 – 2015 Arturo Lopez Pineda, MS (obtained 2012), PhD (obtained 2015) in Biomedical Informatics (co-advisor); current position: CEO, Amphora Health, Morelia, Michoacán, Mexico
- 2007 – 2016 An-kwok Ian Wong, MS (obtained 2009), PhD (obtained 2016) in Intelligent Systems Program; current position: Assistant Professor in Pulmonary & Critical Care Medicine / Translational Biomedical Informatics, Duke University, Cary, NC
- 2016 – 2018 Joyeeta Dutta-Moscato, MS, PhD (obtained 2018) in Biomedical Informatics; current position: Lead Quality Improvement Analyst, UPMC Health Plan, Pittsburgh, PA
- 2017 – present Mohammadamin Tajgardoan, MS (obtained 2019), PhD (expected 2022) in Intelligent Systems Program; current position: Applied Scientist, Amazon Web Services (AWS), Santa Clara, CA
- 2018 – 2023 Ke Yu, MS (obtained 2020), PhD (obtained 2023) in Intelligent Systems Program; current position: Google
- 2022 – present Joshua Anderson, MS in Intelligent Systems Program; current position: doctoral trainee

Primary Research Advisor to the following students in Medical Scientist Training Program (MSTP):

- 2014 – 2017 Eric V. Strobl, MS (obtained 2011), PhD (obtained 2017) in Biomedical Informatics; current position: Child and Adolescent Psychiatry Fellow, Department of Psychiatry and Behavioral Sciences, Vanderbilt University Medical Center, Nashville, TN
- 2017 – 2021 Adriana Johnson, MS (obtained 2020), PhD (obtained 2021) in Biomedical Informatics; current position: Obstetrics and Gynecology Resident, Tufts Medical Center, Boston, MA
- 2021 – present Amir Mina in Biomedical Informatics (co-advisor); current position: MSTP trainee, University of Pittsburgh School of Medicine, Pittsburgh, PA

Primary Research Advisor to the following post-doctoral associates:

- 2009 – 2010 Xia Jiang, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor); current position: Associate Professor, Department of Biomedical Informatics, University of Pittsburgh School of Medicine, Pittsburgh, PA
- 2009 – 2011 Pablo Hennings-Yeomans, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor)
- 2012 – 2013 Charalampos Floudas, MD, MS, Post-Doctoral Associate in Biomedical Informatics; current position: Head of Head and Neck Cancer therapy, Immunotherapy section, NIH, Bethesda, MD
- 2012 – 2013 Antonio Ferreira, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor)

Primary Research Advisor to high school students:

- 2011 Edward Nguyen in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students
- 2013 Amy McMillen in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students
- 2017 Shaina Khatri in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students

Other Research Mentoring:

- 2012 MSTP Summer Laboratory Rotation Research Advisor to Eric Strobl, MSTP student
- 2013 MSTP Summer Laboratory Rotation Research Advisor to Eric Strobl, MSTP student
- 2015 MSTP Summer Laboratory Rotation Research Advisor to Adriana Johnson, MSTP student
- 2017 MSTP Summer Laboratory Rotation Research Advisor to Adriana Johnson, MSTP student
- 2017 – 2020 Informatics mentor to Lorne Walker, MD, PhD, Pediatric Infectious Disease Fellow
- 2017 – 2018 Informatics mentor to Jonathan Arnold, MD, MSE, Clinical Instructor of Medicine
- 2018 – 2019 Research Advisor to Chandramouli Ratham, MS, School of Medicine’s *Bioengineering, Biotechnology, and Innovation Area of Concentration (BBI AOC)* program for medical school students.
- 2019 Research Rotation Advisor to Eric Strobl, MSTP student
- 2021 – 2022 Informatics mentor to Harikesh Subramanian, MD, Assistant Professor in Anesthesiology and Perioperative Medicine
- 2000 MSTP Summer Laboratory Rotation Research Advisor to Amir Mina, MSTP student
- 2000 MSTP Summer Laboratory Rotation Research Advisor to Michael Leone, MSTP student
- 2021 – 2022 Informatics mentor to Harikesh Subramanian, MD, Assistant Professor in Anesthesiology and Perioperative Medicine
- 2022 PSTP Summer Laboratory Rotation Research Advisor to Katherine Du, PSTP student
- 2022 Research Rotation Advisor to Adriana Johnson, MSTP student
- 2022 – 2023 Informatics mentor to Craig Sewall, PhD, Postdoctoral trainee in Psychiatry

2022 – 2023 Informatics mentor to Rahul Chaudhary, MD, Fellow in Cardiology
2023 PSTP Summer Laboratory Rotation Research Advisor to Harshini Raman, PSTP student

Academic and Career Advising:

Academic Advisor to the following students in Biomedical Informatics Training Program:

2008 – 2015 Richard Wilson, PhD trainee
2009 – 2016 Rick Jordan, PhD trainee
2008 – 2017 Kevin McDade, PhD trainee
2009 – 2014 Danielle Mowery, PhD trainee
2009 – 2013 Marc Clayton, MS trainee
2010 – 2012 Patrice Thorpe Jamison, MS trainee
2010 – 2012 Arturo Lopez Pineda, PhD trainee
2011 – 2012 Jessica Larusch, Certificate trainee
2011 – 2013 Holly Perry Berty, PhD trainee
2011 – 2015 Joyeeta Dutta Mascoto, PhD trainee
2012 – 2013 Reza Sadeghian, MS trainee
2014 – 2015 She Zhang, MS trainee
2014 – 2018 Yuzhe Brian Liu, MSTP & PhD trainee
2015 – 2016 Chandra Rathnam, MS trainee
2015 – 2016 Srilakshmi Chaparala, Certificate trainee
2016 – 2021 Pritika Dasgupta, PhD trainee
2017 – 2022 Brandan Dunham, PhD trainee
2018 – 2019 Olga Kravchenko, Certificate trainee

Career Advisor to the following students in Medical Scientist Training Program (MSTP):

2014 – 2018 Yuzhe Brian Liu, career advisor to MSTP student
2018 – present Amir Mina, career advisor to MSTP student
2020 – present Michael Leone, career advisor to MSTP student
2020 – present Rumana Rashid, career advisor to MSTP student

Career Advisor to the following students in Physician Scientist Training Program (PSTP):

2017 – 2018 Nathan Sisterson, career advisor to PSTP student

Graduate Committees:

Member of the MS Thesis Committee / PhD Preliminary Evaluation of the following graduate students:

2009 Shuguang Wang, MS – Intelligent Systems Program
2010 Rajiv Wadhwa, MD, MS – Biomedical Informatics Training Program
2010 Jian Wang, MS – Biomedical Informatics Training Program
2010 Danielle Mowery, MS – Biomedical Informatics Training Program
2010 Zachary Landis Lewis, MS – Biomedical Informatics Training Program
2010 Saeed Amizadeh, MS – Intelligent Systems Program

2010 Yuriy Sverchkov, MS – Intelligent Systems Program
 2012 Jeremy Espino, MD, MS – Intelligent Systems Program
 2013 Henry Ogoe, MS – Biomedical Informatics Training Program
 2013 Mahdi Pakdaman Naeini, MS – Intelligent Systems Program
 2014 Reza Sadeghian, MD, MS – Biomedical Informatics Training Program
 2014 Victor Ruiz Herrera, MS – Biomedical Informatics Training Program
 2014 John Frazier, MS – Biomedical Informatics Training Program
 2015 Andrew King, MS – Biomedical Informatics Training Program
 2015 Amie Draper, MS – Biomedical Informatics Training Program
 2016 Sergio Castro Diaz, MS – Biomedical Informatics Training Program
 2016 Diyang Xue, MS – Intelligent Systems Program
 2017 Bryan Andrews, MS – Intelligent Systems Program
 2018 Luca Calzoni, MS – Biomedical Informatics Training Program
 2019 Mahbaneh Torbati, MS – Intelligent Systems Program
 2020 Saba Dadsetan, MS – Intelligent Systems Program
 2020 Sanya Taneja, MS – Intelligent Systems Program
 2021 Yingci Liu, MS – Biomedical Informatics Training Program
 2022 Neil Munjal, MD, MS – Intelligent Systems Program
 2023 Sonish Sivarajkumar – Intelligent Systems Program
 2023 Nihal Murali – Intelligent Systems Program
 2023 Daniel Sokolowski – Biomedical Informatics Training Program

Member of the PhD Dissertation Committee of the following graduate students:

2009 Jonathan Lustgarten, PhD – Biomedical Informatics Training Program
 2010 Steven M. Handler, MD, PhD – Biomedical Informatics Training Program
 2010 Philip Ganchev, PhD – Intelligent Systems Program
 2012 Himanshu Grover, PhD – Biomedical Informatics Training Program
 2012 Holly Berty, PhD – Biomedical Informatics Training Program
 2013 Eric Williams, PhD – Intelligent Systems Program
 2014 Danielle Mowery, PhD – Biomedical Informatics Training Program
 2014 Yuriy Sverchkov, PhD – Intelligent Systems Program
 2015 Ying-Feng Hsu, PhD – School of Information Sciences
 2016 Rick Jordan, PhD – Biomedical Informatics Training Program
 2016 Henry Ogoe, PhD – Biomedical Informatics Training Program
 2016 Lujia Chen, PhD – Biomedical Informatics Training Program
 2016 Mahdi Pakdaman Naeini, PhD – Intelligent Systems Program
 2018 Andrew King, PhD – Biomedical Informatics Training Program
 2018 Yuzhe Brian Liu, PhD – MSTP & Biomedical Informatics Training Program
 2019 Victor Ruiz Herrera, PhD – Biomedical Informatics Training Program
 2019 Gaurav Trivedi, PhD – Intelligent Systems Program
 2019 Jeya Balasubramanian, PhD – Intelligent Systems Program
 2019 Amie Barda, PhD – Biomedical Informatics Training Program
 2019 Shuguang Wang, PhD (on leave) – Intelligent Systems Program

2020 Yangbing Xue, PhD – Computer Science
2020 Fattaneh Jabbari, PhD – Intelligent Systems Program
2021 Jason B. Colditz – Clinical and Translational Science
2021 Lauren Rost, PhD – Biomedical Informatics Training Program
2022 Jeongmin Lee, PhD – Computer Science
2022 Brandan Dunham, PhD – Biomedical Informatics Training Program
2023 Luca Calzoni, PhD (expected) – Biomedical Informatics Training Program
2023 Hazim Alotaibi, SJD (expected) – Doctor of Juridical Science (SJD) Program
2023 Tran Quoc Bao Tran (expected) – University of Glasgow
2024 Mahbaneh Eshaghzadeh Torbati (expected) – Intelligent Systems Program
2024 Eddie Claudio Perez (expected) – Biomedical Informatics Training Program
2024 Maxwell Reynolds (expected) – Biomedical Informatics Training Program

Member of the Comprehensive Examination Committee of the following graduate students:

2008 Thankam Thyvalikakath – Biomedical Informatics Training Program
2008 Eric Williams – Intelligent Systems Program
2008 Himanshu Grover – Biomedical Informatics Training Program
2010 Richard Wilson – Biomedical Informatics Training Program
2010 Shuguang Wang – Intelligent Systems Program
2011 Hatice Ulku Osmanbeyoglu – Biomedical Informatics Training Program
2011 Zach Landis Lewis – Biomedical Informatics Training Program
2011 Danielle Mowery – Biomedical Informatics Training Program
2012 Kevin McDade – Biomedical Informatics Training Program
2012 Katrina Romagnoli – Biomedical Informatics Training Program
2013 Rick Jordan – Biomedical Informatics Training Program
2013 Yuriy Sverchkov – Intelligent Systems Program
2014 Henry Ogoe – Biomedical Informatics Training Program
2014 Mahdi Pakdaman Naeini – Intelligent Systems Program
2015 Amie Draper – Biomedical Informatics Training Program
2016 Andrew King – Biomedical Informatics Training Program
2016 Victor Ruiz Herrera – Biomedical Informatics Training Program
2016 Gaurav Trivedi – Intelligent Systems Program
2016 Diyang Xue – Intelligent Systems Program
2017 Jeya Balasubramanian – Intelligent Systems Program
2017 Fattaneh Jabbari – Intelligent Systems Program
2017 Sanghoon Lee – Biomedical Informatics Training Program
2018 Luca Calzoni – Biomedical Informatics Training Program
2018 Pritika Dasgupta – Biomedical Informatics Training Program
2022 Saba Dadsetan – Intelligent Systems Program
2022 Ke Yu – Intelligent Systems Program
2023 Sonish Sivarajkumar – Intelligent Systems Program

Mentee Achievements:

- 2010, Chad Kimmel, doctoral student, Biomedical Informatics Training Program, University of Pittsburgh – awarded a TL1 Pre-Doctoral Fellowship in Clinical and Translational Research
- 2011 An-kwok Ian Wong, doctoral student, Intelligent Systems Program – awarded Scholarship in Medical Student Training in Aging Research (MSTAR) Program
- 2013 Eric V. Strobl, doctoral student, MSTP – awarded the Best Poster prize for Deep learning and causal discovery at the 2013 BMI Training Program Retreat
- 2013 Matthew Stokes, doctoral student, Intelligent Systems Program – awarded the Best Paper prize at the 2013 BMI Training Program Retreat
- 2013 Matthew Stokes, doctoral student, Intelligent Systems Program – invited to present his work on “Feature selection for biomarker discovery in genome-wide SNP data” at the meeting of the NLM Board of Regents
- 2014 Eric V. Strobl, doctoral student, MSTP – awarded the Best Paper prize at the 2014 BMI Training Program Retreat
- 2017 Eric V. Strobl, doctoral student, MSTP – awarded the Roth Fellowship by Department of Psychiatry, University of Pittsburgh
- 2018 Eric V. Strobl, doctoral student, MSTP – awarded the Drs. S. Sutton Hamilton MSTP Scholar Award by the MSTP, University of Pittsburgh
- 2019 Amir Mina, medical student, MSTP – finalist in the 2019 Michael G. Wells Student Healthcare Entrepreneurship Competition, University of Pittsburgh
- 2020 Mohammadamin Tajardoost, doctoral student, Intelligent Systems Program – awarded Provost Fellowship in the Intelligent Systems Program, University of Pittsburgh
- 2023 Rahul Chaudhary, MS student, Intelligent Systems Program – awarded Clinical Transformation Program grant, The Beckwith Institute

RESEARCH

Current Grant Support:

| Grant Number (funded) | Grant Title | Role in Project % Effort | Years Inclusive | Source \$ Amount |
|--|--|-----------------------------|---------------------------|--|
| UL1 TR001857 NIH/NCATS (Reis) | Informatics Core, Clinical and Translational Science Institute | Director 2.40 calendar | 07/01/2016- 05/31/2026 | NIH/NCATS \$9,265,104 |
| OT2 OD026554 NIH (Reis, Visweswaran) | All of Us Pennsylvania | PD/PI 2.40 calendar | 02/08/2018- 02/29/2024 | NIH \$2,735,691 (\$1,748,714 directs + \$986,977 indirects) |
| U01 TR002623 NIH/NCATS (Mandl) | Instrumenting the Delivery System for a | Co-I 1.20 calendar | 07/31/2019- 06/30/2025 | NIH/NCATS \$354,867 |

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| | Genomic Research Information Commons | | | |
| R01 LM013345 NIH/NLM (Weber) | Biases Introduced by Filtering Electric Health Records for Patients with “Complete Data” | Co-I 0.30 calendar | 09/04/2020-08/31/2024 | NIH/NLM \$147,393 |
| OT2 HL161847 NIH/NHLBI (Haendel) | Post-Acute Sequelae of SARS-CoV-2 Infection Initiative: NYU Langone Health Clinical Science Core, Data Resource Core | Co-I 1.20 calendar | 10/01/2021-05/23/2024 | NIH/NHLBI \$94,000 |
| U24 TR004111 NIH/NCATS (Reis, Visweswaran) | ENACT: Translating Health Informatics Tools to Research and Clinical Decision Making | PD/PI 2.40 calendar | 08/01/2022-05/31/2027 | NIH/NCATS \$4,664,452 (\$3,558,747 directs + \$1,105,705 indirects) |
| ABFM Foundation (Maier) | Growing Primary Care Informatics using AI/ML to Understand Patients Not Just Diseases | Co-I 0.00 calendar (donated) | 09/01/2022-08/31/2026 | ABFM Foundation \$500,000 |
| R01 EB032752 NIH/NIBIB (Hauskrecht, Clermont, Huang) | Learning Alerting Models for Clinical Care from EMR Data and Human Knowledge | Co-I 0.60 calendar | 09/30/2022-06/30/2026 | NIH/NIBIB \$2,525,828 (total) |
| R01 NS098023 NIH/NINDS (Xia) | Leveraging Electronic Health Records to Optimize Treatment Selection and Response in Multiple Sclerosis | Co-I 0.60 calendar | 09/01/2022-08/31/2027 | NIH/NINDS \$3,761,522 (total) |
| PCORI (Bailey) | Coordinating Center: Participatory Approach to Query Fulfillment and Analytic Tool Development | Co-I 0.6 calendar | 01/01/2023-12/31/2024 | PCORI \$183,923 (total) |

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|------------------------------------|--|-----------------------------------|-----------------------|------|
| The Beckwith Institute (Chaudhary) | Machine Learning Based Clinical Decision Support to Predict Bleeding Risk in Patients with Atrial Fibrillation on Direct Oral Anticoagulants | Mentor 0.00 calendar (donated) | 07/01/2023-06/30/2024 | UPMC |
|------------------------------------|--|-----------------------------------|-----------------------|------|

Pending Grant Support:

| Grant Number (funded) | Grant Title | Role in Project % Effort | Years Inclusive | Source \$ Amount |
|---------------------------------|--|--------------------------|-----------------------|--------------------------------|
| U01 NIH/NCATS (Liu, Wang) | Open Health Natural Language Processing Collaborative towards Fair and Inclusive Clinical and Translational Research | Co-I 0.60 calendar | 01/12/2023-01/11/2028 | NIH/NCATS \$993,750 (total) |

Prior Grant Support:

| Grant Number (funded) | Grant Title | Role in Project % Effort | Years Inclusive | Source \$ Amount |
|--|--|--------------------------|-----------------------|-------------------------------|
| U24 TR002306 NIH/NCATS (Haendel, Chute) | CD2H - National COVID Cohort Collaborative (N3C) Supplement | Co-I 0.36 calendar | 07/21/2020-07/20/2023 | NIH/NCATS \$63,685 |
| Center for Commercial Applications of Healthcare Data UPMC Enterprises (Thirumala) | Realtime Evaluation for Adverse Events using Intraoperative Neurophysiological Monitoring (READE IONM) | Co-PI 1.80 calendar | 06/01/2020-05/31/2022 | UPMC Enterprises \$396,615 |
| R01 LM012605 NIH/NLM (NCE) (Schleyer) | Enhancing Information Retrieval in Electronic Health Records through Collaborative Filtering | Co-I 0.60 calendar | 06/01/2018-04/30/2022 | NIH/NLM \$51,537 |
| R01 CA225773 NIH/NCI (Primack) | Leveraging Twitter to Monitor Nicotine and Tobacco-Related Cancer Communication | Co-I 1.20 calendar | 03/01/2018-02/28/2022 | NIH/NCI \$130,992 |

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|--|--|------------------------------|---------------------------|---|
| UL1 TR001857-01S1 NIH/NCATS (Reis) | ACT (Accrual to Clinical Trials) network | Co-I 1.20 calendar | 09/23/2016- 05/31/2021 | NIH/NCATS \$2,056,667 |
| R35 GM119519 NIH/NIGMS (Seymour) | Sepsis Endotyping Using Clinical and Biological Data | Co-I 0.30 calendar | 08/02/2016- 05/31/2021 | NIH/NIGMS \$44,038 |
| R01 LM012095 NIH/NLM (Visweswaran) | Development and Evaluation of a Learning Electronic Medical Record System | PI 4.80 calendar | 09/15/2015- 06/30/2020 | NIH/NLM \$1,303,317 (\$884,052 directs + \$419,265 indirects) |
| R35 HL144804 NIH/NHLBI (Kahn) | Organizational Strategies for Improving Evidence-Uptake in Intensive Care | Co-I 1.20 calendar | 01/21/2019- 12/31/2019 | NIH/NHLBI \$35,740 |
| R01 GM088224 NIH/NIGMS (Hauskrecht, Clermont, Cooper) | Detecting Deviations in Clinical Care in ICU Data Streams | Co-I 0.96 calendar | 01/01/2014- 11/30/2019 | NIH/NIGMS \$323,029 |
| U54 HG008540 NIH (Cooper, Bahar, Berg) | Center for Causal Modeling and Discovery of Biomedical Knowledge from Big Data | Co-I 1.20 calendar | 09/15/2014- 08/31/2019 | NIH \$142,194 |
| UG3 OD023153-01S1 NIH (Reis, Visweswaran, Marroquin) | Precision Approach to healthCARE enrollment Site (PA CARES) | PD/PI 1.80 calendar | 07/06/2016- 02/07/2018 | NIH \$941,239 (\$612,914 directs + \$328,325 indirects) |
| UL1 TR00005 NIH/NCATS (Reis) | Informatics Core, Clinical and Translational Science Institute | Co-Director 2.40 calendar | 07/01/2015- 06/30/2016 | NIH/NCATS \$252,763 |
| CDRN 1306-04912 PCORI (McTigue) | A PaTH Towards a Learning Health System in the Mid-Atlantic Region | Co-I 1.20 calendar | 01/01/2014- 06/30/2016 | PCORI \$57,362 |
| T15 LM007059 NIH/NLM (Crowley) | Pittsburgh Biomedical Informatics Training Program | Co-I 0.60 calendar | 07/01/2012- 06/30/2016 | NIH/NLM/NICDR \$32,000 |

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|---|---|------------------------------------|-----------------------|---|
| UL1 TR00005-09S1 NIH/NLM (Reis) | CTS Acts (Clinical and Translational Science Accrual to Clinical Trials) | Co-I 3.00 calendar | 07/01/2014-06/30/2015 | NIH/NCATS \$286,411 |
| R01 GM100387 NIH/NIGMS (Gopalakrishnan) | Transfer Rule Learning for Knowledge Based Biomarker Discovery and Predictive Biomedicine | Co-I 2.40 calendar | 07/01/2012-06/30/2015 | NIH/NIGMS \$28,042 |
| R01 LM010950 NIH/NLM (Gopalakrishnan) | Bayesian Rule Learning Methods for Disease Prediction and Biomarker Discovery | Co-I 1.20 calendar | 08/15/2011-06/30/2015 | NIH/NLM \$30,886 |
| W81XWH-11-0133 DOD (Dunn) | Framework for Smart Electronic Health Record-Linked Predictive Models to Optimize Care for Complex Digestive Diseases | Co-I 2.40 calendar | 07/01/2010-06/30/2014 | DOD \$85,911 |
| HHSN 276201000030C NIH/NLM (Visweswaran) (funding from the American Recovery and Reinvestment Act (ARRA)) | Optimal Influenza Vaccine Strain Selection | PI 3.00 calendar | 09/27/2010-09/26/2012 | NIH/NLM \$299,901 (\$197,955 directs + \$101,946 indirects) |
| ICRE Predoctoral Fellowship NIH/NCATS (Kimmel) | Identification of Genetic and Environmental Factors of Disease from Literature | Mentor 0.00 calendar donated | 07/01/2010-06/30/2011 | University of Pittsburgh \$22,976 |
| T15 LM007059-24S1 NIH/NLM (Crowley) | Pittsburgh Biomedical Informatics Training Program NLM 2010 Curriculum Supplement | Co-I 0.60 calendar | 07/01/2010-06/30/2011 | NIH/NLM/NIDCR \$216,000 |

Other Research Related Activities:

Patents and Copyrights:

1. **Visweswaran S.** A Rule-Based Expert System to Detect Adverse Drug Reactions in the Nursing Home Setting. Copyright protection was awarded by the University of Pittsburgh on 18 October 2007. Pitt Ref No. 01586.
2. Bhavnani SK, Bassler KE, **Visweswaran S.** Computer-Implementable Algorithms for Biomarker Discovery Using Bipartite Networks. Application filed to the United States Patent and Trademark Office on 14 March 2013. US Patent No. US20130245959A1. Status: abandoned.
3. Hauskrecht M, Cooper GF, Clermont G, **Visweswaran S.** A System for Alerting on Unusual Patient-Care Management Based on Machine Learning of Usual Patient-Care Management. Invention disclosure application filed to the University of Pittsburgh on 24 November 2014. Pitt Ref No. 03454.
4. **Visweswaran S,** Cooper GF, Hochheiser HS, King AJ. Learning Electronic Medical Record System. Invention disclosure application filed to the University of Pittsburgh on 23 July 2015. Pitt Ref No. 03676.
5. Hochheiser HS, **Visweswaran S,** Trivedi G, Hong C, Handzel R, Dadashzadeh E. Automation of Useful Secondary Findings from Radiology and Pathology Reports. Copyright protection was awarded by the University of Pittsburgh on 9 November 2018. Pitt Ref No. 04737.
6. Thirumala P, Mina A, **Visweswaran S.** Realtime Evaluation for Adverse Events using Intraoperative Neurophysiological Monitoring (READE IONM). Invention disclosure application filed to the University of Pittsburgh on 7 April 2019. Pitt Ref No. 04944.
7. Triantafyllou S, **Visweswaran S.** THRESHOLD: Improving treatment guidelines with regression discontinuity designs. Invention disclosure application filed to the University of Pittsburgh on 18 April 2019. Pitt Ref No. 04963.
8. Hauskrecht M, Clermont G, Cooper GF, Malakouti S, Hong C, Luo Z, Barren MP, Liu S, **Visweswaran S.** Real-time Clinical Monitoring and Alerting System. Invention disclosure application filed to the University of Pittsburgh on 15 May 2019. Pitt Ref No. 04995.
9. Lu X, Cai C, Cooper GF, **Visweswaran S.** Identification of Somatic Gene Alterations with Functional Impact. Application filed to the United States Patent and Trademark Office on 13 November 2017. US Patent No. US2019/0287651 A1. Publication date: 19 September 2019.
10. **Visweswaran S,** Thirumala PD, Batmanghelich K, Espino JU. Intraoperative Electroencephalogram (EEG) Data Parser Tool. Invention disclosure application filed to the University of Pittsburgh on 21 July 2021. Pitt Ref No. 05767.
11. **Visweswaran S,** Thirumala PD, Batmanghelich K, Espino JU. Machine Learning Development and Application for Real-Time Detection of Ischemia and Stroke During Surgery. Invention disclosure application filed to the University of Pittsburgh on 23 July 2021. Pitt Ref No. 05769.
12. **Visweswaran S,** Thirumala PD, Batmanghelich K, Espino JU. Intraoperative Electroencephalogram (EEG) Display Tool. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06032.
13. **Visweswaran S,** Thirumala PD, Batmanghelich K, Espino JU. Code for Intraoperative Electroencephalogram (EEG) Data Parser Tool. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06033.

14. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Code for Machine Learning Development and Application for Real-Time Detection of Ischemia and Stroke During Surgery. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06034.
15. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Code for Intraoperative Electroencephalogram (EEG) Display Tool. Invention disclosure application filed to the University of Pittsburgh on 20 May 2022. Pitt Ref No. 06037.
16. **Visweswaran S**, Espino JU, Batmanghelich K, Thirumala PD, Mina A. Machine learning techniques for detecting reduced blood flow conditions. Application filed to the United States Patent and Trademark Office on 9 September 2022. Application No. PCT/US2022/043085.
17. Reis SE, **Visweswaran S**, Mathias D. Anesthesia induction tool. Invention disclosure application filed to the University of Pittsburgh on 1 December 2022. Pitt Ref No. 06234.
18. **Visweswaran S**, Espino JU, Batmanghelich K Thirumala PD, Mina A. Machine Learning Techniques for Detecting Reduced Blood Flow Conditions. Application filed to the United States Patent and Trademark Office on 9 September 2022. US Patent No. US 2023/0080348 A1. Publication date: 16 March 2023.
19. Subramanian H, **Visweswaran S**, Mathias D. A dynamic medical educational platform based on synthetic patient data. Invention disclosure application filed to the University of Pittsburgh on 29 November 2023. Pitt Ref No. 06579.

Companies:

- 2018 – present Co-founder of Kvatchii, Inc., UK
- 2021 – present Co-founder of READE.ai, Inc., USA
- 2023 – present Chief Medical Officer, ThetaRho, Inc., USA

Journal Editorial Boards:

- 2007 – present International Journal of Medical Engineering and Informatics
- 2017 – present Artificial Intelligence in Medicine
- 2020 – present Journal of Biomedical Informatics

Journal Special Issue Editorship:

- 2021 Best practices in research patient data repositories in the Journal of the American Medical Informatics Association
- 2023 Special issue on fairness and inclusion in biomedical informatics research: technical and social perspectives in the Journal of Biomedical Informatics

Journal Refereeing:

- 2005 – present Artificial Intelligence in Medicine
- 2007 PLoS Medicine
- 2009 IEEE Transactions on Information Theory
- 2009 – 2013 Computers in Biology and Medicine

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| 2009 – 2010 | PLoS Computational Biology |
| 2010 – 2015 | Medical Decision Making |
| 2010 – 2022 | PLoS ONE |
| 2011 | Science Translational Medicine |
| 2011 – present | Journal of Biomedical Informatics |
| 2012 | IIE Transactions on Healthcare Systems Engineering |
| 2012 | Annals of Neurology |
| 2012 – 2013 | Statistics in Medicine |
| 2012 – present | Journal of the American Medical Informatics Association |
| 2013 | Journal of Pathology Informatics |
| 2013 – 2015 | PeerJ |
| 2014 – present | Applied Clinical Informatics |
| 2015 | Translational Medicine |
| 2018 | Learning Health Systems |
| 2019 – 2022 | Journal of Medical Internet Research |
| 2020, 2022 | Nature Medicine |
| 2020 | Nature Communications |
| 2022 | IMIA Yearbook of Medical Informatics |

Conference Refereeing:

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| 2006 | Conference on Uncertainty in Artificial Intelligence |
| 2007 – present | AMIA Annual Symposium |
| 2011 | International Joint Conference on Artificial Intelligence |
| 2011 | AMIA Summit on Translational Bioinformatics |
| 2011, 2015 | Conference on Artificial Intelligence in Medicine (AIME) |
| 2012 – present | AMIA Informatics Summit |
| 2012 | International Conference on Machine Learning (ICML) |
| 2013 | Twenty-Seventh Conference on Artificial Intelligence (AAAI-13) |
| 2013 – 2014 | The IEEE International Conference on Bioinformatics and Biomedicine (BIBM) |
| 2019 – present | AMIA Clinical Informatics Conference |
| 2019 – 2021 | IEEE International Conference on Healthcare Informatics (ICHI) |

Extramural Grant Reviewing:

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|------|--|
| 2010 | Reviewer, Medical Research Council, London, UK |
| 2011 | NSF, Reviewer, Smart Health and Wellbeing Review Panel |
| 2012 | NSF, Reviewer, Smart Health and Wellbeing Review Panel Reviewer, University of Pittsburgh, Small Grants Program, Central Research Development Fund |
| 2016 | NSF, External Reviewer, CISE Research Initiation Initiative (CRII) NIH, <i>Ad hoc</i> Reviewer, Precision Medicine Review Meeting, Special Emphasis Panel ZTR1-SRC-99 |
| 2018 | NSF, <i>Ad hoc</i> Reviewer, NSF CAREER Panel P190145 |

- NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 ZH-C (01)
 NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)
 2019 NIH, *Ad hoc* Reviewer, NIBIB Special Emphasis Panel ZEB1 OSR-E (J1) S
 NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)
 2020 NIH, *Ad hoc* Reviewer, NCATS Biomedical Data Translator: Development
 NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)
 NIH, *Ad hoc* Reviewer, NIGMS Special Emphasis Panel ZGM1 TWD-9-KR
 NIH, *Ad hoc* Reviewer, NIGMS Special Emphasis Panel ZRG1 HDM-E-90
 NIH, *Ad hoc* Reviewer, NLM Emergency Awards: RADx-rad Data Coordination Center
 (U24) ZRG1 BST-W-50
 2021 NIH, *Ad hoc* Reviewer, NIAID Special Emphasis Panel ZAI1-IS-W (S2) Emergency Awards:
 Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)
 and Coronavirus Disease 2019 (COVID-19)
 NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 LT-C (01)
 NIH, *Ad hoc* Reviewer, Neurological, Aging and Musculoskeletal Epidemiology (NAME)
 Study Section
 2022 NIH, *Ad hoc* Reviewer, NLM COI-K99-CURATION/R01 ZLM1 RV-C(01)
 NIH, *Ad hoc* Reviewer, NLM G08 Special Emphasis Panel 2022/05 ZLM1 JL-G (01)
 NIH, *Ad hoc* Reviewer, 2022/10 Clinical Informatics and Digital Health (CIDH) Study
 Section
 2023 NIH, *Ad hoc* Reviewer, NLM COI-R01-G08-R13/R01 ZLM1 RV-C(01)
 NIH, *Ad hoc* Reviewer, 2023/08 ZRG1 IVBH-A (50) R - Enhancing the Use of the All of Us
 Research Program's Data
 NIH, Standing Panel Member, Clinical Informatics and Digital Health (CIDH) Study Section

Press:

- 2012 Savage N. Better Medicine Through Machine Learning. Communications of the ACM (Vol.
 55 No. 1, January 2012)
 2012 Powerful new method to analyze genetic data. Science Daily (12 June 2012)
<http://www.sciencedaily.com/releases/2012/06/120612115944.htm>
 2013 Miksch J. A computer guy's take on personalized medicine. PittMed (Summer 2013)
 2016 Pitt Receives Prestigious NIH Award to Support Development of Million-Person Precision
 Medicine Study. University of Pittsburgh Health Sciences Media Relations.
 2018 One Million Wanted: Pitt, UPMC To Recruit PA Residents For National Study. 90.5 WESA.
 Pittsburgh's NPR News Station [http://wesa.fm/post/one-million-wanted-pitt-upmc-
 recruit-pa-residents-national-study#stream/0](http://wesa.fm/post/one-million-wanted-pitt-upmc-recruit-pa-residents-national-study#stream/0)
 2018 'All of Us' Million Person Precision Medicine Initiative Launches, Seeks Volunteers.
 University of Pittsburgh Health Sciences Media Relations.
 2021 Gidwani K. Artificial Intelligence in the Medical Field. The Pitt Pulse. Volume XI, Issue 3.
<http://www.thepittpulse.org/artificial-intelligence-in-the-medical-field>
 2022 AI & ML in Healthcare Symposium Highlights Pittsburgh's Potential.
[https://www.jhf.org/news-blog-menu/entry/ai-ml-in-healthcare-symposium-highlights-
 pittsburgh-s-potential](https://www.jhf.org/news-blog-menu/entry/ai-ml-in-healthcare-symposium-highlights-pittsburgh-s-potential)

LIST of CURRENT RESEARCH INTERESTS

1. Artificial intelligence-enabled clinical decision support
2. Race-based clinical algorithms
3. Patient-specific modeling
4. Causal discovery from biomedical data
5. Research data warehousing
6. Ontology development

INVITED SEMINARS AND LECTURESHIPS

Local Presentations:

- 08/2003 **Visweswaran S.** Adverse drug events detection in discharge summaries. Presentation at the *Faculty and Trainees Poster Session: Sampler of Key Research Areas. Pittsburgh Biomedical Informatics Training Program Annual Retreat.* University of Pittsburgh, Pittsburgh, PA.
- 01/2006 **Visweswaran S.** Patient-specific models for predicting the outcomes of patients with community acquired pneumonia. Presentation at the *Biomedical Informatics Colloquium Series.* University of Pittsburgh, Pittsburgh, PA.
- 09/2008 **Visweswaran S.** Personalized medicine in the era of genomics. Presentation at the *Biomedical Informatics Colloquium Series.* University of Pittsburgh, Pittsburgh, PA.
- 09/2011 **Visweswaran S.** Patient-specific modeling. Presentation at the *Intelligent Systems Program (ISP) AI Seminar.* University of Pittsburgh, Pittsburgh, PA.
- 09/2013 **Visweswaran S.** Genomics: Current and future. Presentation at the *Biomedical Informatics Colloquium Series.* University of Pittsburgh, Pittsburgh, PA.
- 08/2015 **Visweswaran S.** Building the Accrual of patients to Clinical Trials (ACT) network. Presentation at the *Pittsburgh Biomedical Informatics Training Program Annual Retreat.* University of Pittsburgh, Pittsburgh, PA.
- 02/2016 **Visweswaran S.** Personalized modeling for prediction with decision-path models. Presentation at the *Critical Care Medicine Weekly Research Conference.* University of Pittsburgh, Pittsburgh, PA.
- 05/2016 **Visweswaran S.** Interoperability, Health Information Exchanges and Clinical Data Research Networks. Presentation at the *Big Data and Healthcare Analytics – A Path to Personalized Medicine.* University of Pittsburgh, Pittsburgh, PA.
- 10/2016 **Visweswaran S.** The Precision Medicine Initiative and personalized modeling for precision medicine. Presentation at the *Spotlight Session 5: Personalized and Precision Medicine, Science 2016.* University of Pittsburgh, Pittsburgh, PA.
- 10/2016 **Visweswaran S.** The Precision Medicine Initiative and personalized modeling for precision medicine. Presentation at the *Health Services Research Seminar.* University of Pittsburgh, Pittsburgh, PA.

- 11/2016 **Visweswaran S.** Center for Causal Discovery (CCD) of Biomedical Knowledge from Big Data. Presentation at the *q-Bio event: Celebrating Pittsburgh's Biomedical Modeling Community*. University of Pittsburgh, Pittsburgh, PA.
- 03/2017 **Visweswaran S.** Artificial intelligence in medicine. Presentation at the *University of Pittsburgh Medical Scientist Training Program Workshop*. University of Pittsburgh, Pittsburgh, PA.
- 10/2017 **Visweswaran S.** Reuse of electronic medical record (EMR) data. Presentation at the *Spotlight Session 2: Big Data, Machine Learning, and Artificial Intelligence, Science 2017*. University of Pittsburgh, Pittsburgh, PA.
- 04/2018 **Visweswaran S.** Developing patient-specific predictive models. Presentation at the *CRISMA Biostatistical and Data Management Core Speaker Series*. University of Pittsburgh, Pittsburgh, PA.
- 05/2018 **Visweswaran S.** Development of a Learning Electronic Medical Record system. Presentation at the *Department of Neurology Grand Rounds Series*. University of Pittsburgh, Pittsburgh, PA.
- 09/2018 **Visweswaran S.** A Learning Electronic Medical Record (LEMR) system to selectively highlight patient information. Presentation at the *Biostatistics and DBMI Joint Mini-Retreat*. University of Pittsburgh, Pittsburgh, PA.
- 12/2018 **Visweswaran S,** Silverstein J. The Center for Clinical Research Informatics (CCRI) & the Research Informatics Office (RIO). Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA.
- 10/2019 Becich MJ, Silverstein J, **Visweswaran S.** Data Sharing Networks supported by Neptune and R3: Roadmap for Access for Your Research. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA.
- 03/2021 **Visweswaran S.** Artificial Intelligence in Clinical Medicine. Presentation at the *SCI-DBMI-ISP Faculty Retreat*. University of Pittsburgh, Pittsburgh, PA.
- 11/2021 **Visweswaran S.** A learning electronic medical record system for identifying relevant patient data. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA.
- 05/2022 **Visweswaran S.** A learning EMR system towards improving patient safety. Presentation at the *Artificial Intelligence/Machine Learning in Healthcare - Fostering Academic Partnerships with the DoD & Industry*. University of Pittsburgh, Pittsburgh, PA.
- 01/2024 **Visweswaran S.** Towards deployment of AI-based clinical decision support. Presentation at the *Dean's Spotlight Series 2024*. School of Computing and Information. University of Pittsburgh, Pittsburgh, PA.

Regional Presentations:

- 10/2005 **Visweswaran S.** Patient-specific predictive modeling. Presentation at the *Machine Learning Lunch Seminar*. Carnegie Mellon University, Pittsburgh, PA.
- 11/2017 **Visweswaran S.** A learning electronic medical record system: Providing decision support using machine learning. Presentation at the *STEM Junction Symposium*. Fox Chapel Area High School, Pittsburgh, PA.

09/2019 Ford D, Becich MJ, **Visweswaran S**, Williams D. PaTH Panel: Processes/resources from other networks and thoughts on how to leverage them. *PaTH Face-to-Face Meeting*. University of Pittsburgh, Pittsburgh, PA.

National Presentations:

- 11/2003 **Visweswaran S**, Hanbury P, Saul M, Cooper GF. Detecting adverse drug events in discharge summaries using variations on the simple Bayes model. Paper presentation at the *AMIA Annual Symposium*. Washington, DC.
- 06/2004 **Visweswaran S**. Learning patient-specific models for predicting outcomes under uncertainty. Presentation at the *NLM Informatics Training Conference*. Indianapolis, IN.
- 12/2004 **Visweswaran S**, Cooper GF. Instance-specific Bayesian model averaging for classification. Poster presentation at the *Advances in Neural Information Processing Systems*. Vancouver, Canada.
- 10/2005 **Visweswaran S**, Cooper GF. Patient-specific models for predicting the outcomes of patients with community acquired pneumonia. Paper presentation at the *AMIA Annual Symposium*. Washington, DC.
- 11/2009 **Visweswaran S**, Wong AI, Barmada MM. A Bayesian method for identifying genetic interactions. Paper presentation at the *AMIA Annual Symposium*. San Francisco, CA.
- 11/2010 **Visweswaran S**, Mezger J, Clermont G, Hauskrecht M, Cooper, GF. Identifying deviations from usual medical care using a statistical approach. Paper presentation at the *AMIA Annual Symposium*. Washington, DC.
- 08/2013 **Visweswaran S**. Genomics: Current and future. Presentation at the *Scientific Session of the Fourteenth Biennial JIPMER Alumni Association of North America (JAANA) Meet*. Boston, MA.
- 07/2014 **Visweswaran S**. Patient-specific prediction with decision-path models. Presentation at the *University Showcase, NLM Informatics Training Conference*. University of Pittsburgh, Pittsburgh, PA.
- 10/2014 **Visweswaran S**. Data Harmonization Work Group Presentation. Presentation at the *Accrual to Clinical Trials (ACT) Wave 1 Face to Face Meeting*. Hilton Chicago O'Hare Airport, Chicago, IL.
- 06/2015 **Visweswaran S**. Data Harmonization Work Group Presentation. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Hilton Chicago O'Hare Airport, Chicago, IL.
- 03/2016 **Visweswaran S**, Tenenbaum J, Gouripeddi R. Secondary use of data for research - EHR, omics and environmental data. Panel presentation at the *AMIA Joint Summits on Translational Science*. San Francisco, CA.
- 04/2017 **Visweswaran S**. Data Harmonization Work Group Update. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Omni Shoreham Hotel, Washington, DC.
- 10/2017 Borrromeo C, **Visweswaran S**. Data Harmonization Work Group Update. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. University of California San Diego, San Diego, CA.

- 11/2017 Bhavnani SK, Ayyaswamy A, Chen T, **Visweswaran S**, Bellala G, Bassler KE. Vicinity exploration: Enabling user-driven visual search of multiple machine learning models for precision medicine. System demonstration at the *AMIA Annual Symposium*. Washington, DC.
- 04/2018 MacFadden D, Trevvett P, **Visweswaran S**, Morris M. Understanding ACT Data: What do my Query Results Mean? Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Omni Shoreham Hotel, Washington, DC.
- 05/2018 Tajgardoon, M, **Visweswaran S**. Patient-specific explanations from risk prediction models. Presentation at the *AMIA 2018 Clinical Informatics Conference*. Scottsdale, AZ.
- 05/2018 **Visweswaran S**. Developing a Learning Electronic Medical Record system. Presentation at the *AMIA 2018 Clinical Informatics Conference*. Scottsdale, AZ.
- 03/2019 **Visweswaran S**, Murphy SN, MacFadden D, Anderson NR. Accrual to Clinical Trials (ACT): A Clinical and Translational Science Award Consortium network. Late Breaking Panel presentation at the *AMIA Joint Summits on Translational Science*. San Francisco, CA.
- 05/2019 **Visweswaran S**. Using eye-tracking to support a Learning Electronic Medical Record system. Presentation at the *AMIA 2019 Clinical Informatics Conference*. Atlanta, GA.
- 06/2019 **Visweswaran S**. A Learning Electronic Medical Record system to highlight relevant patient information. Presentation at the *Un-Meeting: Machine Learning & Artificial Intelligence Applications in Translational Science*. Rochester, NY.
- 09/2019 **Visweswaran S**. Application of machine learning to highlight relevant patient information in the EMR. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC.
- 10/2019 **Visweswaran S**. Promise and potential of machine learning and Electronic Health Records to transform healthcare. Keynote speaker at *AI in Healthcare Conference*. Penn State College of Medicine, Hershey, PA.
- 10/2019 **Visweswaran S**. Artificial intelligence in medicine. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA.
- 10/2019 **Visweswaran S**. Machine learning to highlight relevant patient information in the EMR. Presentation at the *19th General Meeting of the Health Services Platform Consortium (HSPC)* and the *Clinical Information Interoperability Council (CIIC)*. University of Pittsburgh, Pittsburgh, PA.
- 11/2019 Bhavnani S, Clark C, Kummerfeld E, Penton R, **Visweswaran S**. Team-centered informatics: A necessary adaptation to translational and implementation science? Panel presentation at the *AMIA Annual Symposium*. Washington, DC.
- 11/2019 Champion T, Carroll R, Grand J, Natarajan K, **Visweswaran S**. Curating EHR data in the All of Us Research Program. Panel presentation at the *AMIA Annual Symposium*. Washington, DC.
- 03/2020 **Visweswaran S** (Chair), Liu M, Manukonda P. Research Data Warehousing (RDW) Panel. Panel presentation at the *CTSA Informatics Virtual Meeting*.
- 05/2020 Nadler L, MacFadden, D, **Visweswaran S**, Murphy SN. Using the ACT network to gain insight into COVID-19. Presentation at the *AMIA COVID-19 Webinar Series*.

- 05/2020 Walker LW, Norwalk AJ, **Visweswaran S**. Machine learning predicts catheter salvage in pediatric central line-associated bloodstream infection. Presentation at the *AMIA 2020 Virtual Clinical Informatics Conference*.
- 06/2020 MacFadden D, **Visweswaran S**, Murphy SN. Introduction to ACT and the ACT COVID Network. Presentation at the *i2b2 transSMART Foundation's 2020 Harvard Virtual Conference*.
- 06/2020 Sendro E, **Visweswaran S**, Morris M, Klann JG, Murphy SN. ACT COVID Work. Presentation at the *i2b2 transSMART Foundation's 2020 Harvard Virtual Conference*.
- 10/2020 **Visweswaran S**. A learning electronic medical record system for identifying relevant patient data. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC.
- 11/2020 Winkelstein P, Weiner M, Murphy SN, **Visweswaran S**, Harper J. Real world evidence panel - Where is it leading clinical research? Panel presentation at *the Virtual IT Roundtable*.
- 11/2020 **Visweswaran S**. Artificial intelligence in medicine and IONM. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA.
- 04/2021 Firestein G, **Visweswaran S**. The power of data networks. Presentation at the *2021 Informatics Seminar Series*. School of Medicine and Public Health. University of Wisconsin–Madison, Madison, WI.
- 04/2021 **Visweswaran S**. COVID-19 application ontology for ACT network. Lightning presentation at the *2021 Spring CTSA Program Group Meetings*.
- 06/2021 **Visweswaran S**. Meeting the challenge of i2b2 ontology deployment for the COVID-19 pandemic: ACT COVID-19 ontology. Presentation at the *i2b2 transSMART Foundation's 2021 Harvard Virtual Conference*.
- 07/2021 **Visweswaran S**. Accrual to Clinical Trials (ACT) and COVID-19 ontology. Virtual presentation at the *Informatics Seminar*. Beth Israel Deaconess Medical Center, Boston, MA.
- 10/2021 **Visweswaran S**. A learning electronic medical record system for identifying relevant patient data. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC.
- 11/2021 **Visweswaran S**. Artificial intelligence in medicine and IONM. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA.
- 03/2022 Klann J, Handerson D, **Visweswaran S**, Estiri H, Murphy SN. Ensuring quality: a core competency of federated EHR data networks. Panel presentation at the *AMIA Informatics Summit*. Chicago, IL.
- 03/2022 **Visweswaran S**, Morris M. Want to identify cohorts seamlessly across data models? Try ACT. Ignite talk at the *AMIA Informatics Summit*. Chicago, IL.
- 06/2022 **Visweswaran S**. Research data warehouse & informatics services at Pitt/UPMC. Presentation to the *EDW4R Working Group, CTSA*. (virtual)
- 09/2022 **Visweswaran S**, Morris M, Klann J, Sendro Gano E. ENACT Working Group. Presentation at the *i2b2 transSMART Foundation's 2022 Harvard Symposium*.

- 10/2022 **Visweswaran S.** Data to information: computational models and analytic methods. Presentation at *Mental Health Informatics course*. University of San Francisco, San Francisco, CA.
- 11/2022 Harle HA, Meeker D, **Visweswaran S**, Campion TR, Knosp BM. Delivering real world patient data for clinical and translational research: approaches from four institutions. Panel presentation at the *AMIA Fall Symposium*. Washington, DC.
- 04/09/2023 **Visweswaran S.** Use Cases: ENACT. Presentation at the *2023 Spring CTSA Program Group Meetings*. Washington, DC.
- 05/2023 **Visweswaran S.** ACT to ENACT: Moving from cohort discovery to research. Presentation at the *COVID AI Meeting*. Boston, MA.
- 09/2023 **Visweswaran S** and Klann J. Next Generation ENACT Network. Presentation at the *i2b2 transSMART Foundation's 2023 Harvard Symposium*. Boston, MA.
- 10/2023 **Visweswaran S.** Development of clinical decision support at an academic medical center. Presentation at the *HOB I Grand Rounds*. University of Florida College of Medicine, Gainesville, FL.
- 10/2023 Rose C, **Visweswaran S**, Wu S, Wu Y, Wang Y. ChatGPT for Medicine: Exploring the journey from the past to the present, and beyond. Panel at the *IEEE-EBMS International Conference on Biomedical and Health Informatics*. Pittsburgh, PA.
- 11/2023 **Visweswaran S**, Bertino J, Ashar U, Chee F. The Future of Healthcare in a World of AI. Panel at the *2023 Tech Ethics Symposium*. Carl G. Grefenstette Center for Ethics in Science, Technology, and Law, Duquesne University. Pittsburgh, PA.
- 02/2024 **Visweswaran S.** Racial Fairness in Clinical Algorithms. Presentation at the *ACMI 2024 Symposium*. Waikoloa Beach, HI.

International Presentations:

- 08/2008 **Visweswaran S.** Personalized medicine: the future paradigm. Presentation at the *Scientific Session of the Annual Alumni Meet. Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER)*, Puducherry, India.
- 05/2019 **Visweswaran S.** Artificial intelligence in medicine. Presentation at the *Medical College of the University of the West Indies*. Cave Hill Campus, Barbados.
- 10/2019 **Visweswaran S.** Machine Learning Methods and Data Platforms. Presentation at the *Centre for Brain Research (CBR) Data Analysis Meeting, Indian Institute of Science*. Chicago, IL.
- 02/2021 **Visweswaran S.** Minds and Computers: Artificial Intelligence and the Physician. Presentation at the *Marvelous Medicine Series*. Chennai, India (virtual).
- 07/2023 Mina AI, Espino JU, Bradley AM, Thirumala P, Batmanghelich K, **Visweswaran S.** Time-series aware metrics for the evaluation of intraoperative electroencephalography-based ischemia detection. Presentation at *MedInfo 2023*.

SERVICE

Departmental Service:

- 2009 – present Member, Core Faculty in Biomedical Informatics Training Program
- 2009 – 2016 Member, Executive Leadership Committee, Biomedical Informatics Training Program
- 2009 – 2016 Member, Admissions Committee, Biomedical Informatics Training Program
- 2009 – 2016 Member, Student Evaluation Committee, Biomedical Informatics Training Program
- 2011 – 2016 Member, Preliminary Examination Committee, Biomedical Informatics Training Program
- 2016 – present Member, Strategic Planning Committee, Department of Biomedical Informatics
- 2017 – 2021 Member, Curriculum Committee, Biomedical Informatics Training Program
- 2023 Member, Promotion Committee, Department of Biomedical Informatics

University and Medicine School Service:

- 2008 – present Career Advisor, Medical Scientist Training Program of the University of Pittsburgh School of Medicine
- 2008 – present Career Advisor, Physician Scientist Training Program of the University of Pittsburgh School of Medicine
- 2009 – present Member, University of Pittsburgh Graduate Faculty, University of Pittsburgh
- 2009 – present Member, Graduate Training Program in Intelligent Systems, University of Pittsburgh School of Computing and Information
- 2009 – present Member, PhD in Clinical and Translational Science Program Committee, University of Pittsburgh School of Medicine (KL2 and TL1 programs)
- 2015 – present Mentor, Digestive Diseases Training Program, University of Pittsburgh School of Medicine (T32 program)
- 2016 Member, Data-X Committee for the School of Computing and Information, University of Pittsburgh
- 2016 – 2017 Member, Data Management Committee, University of Pittsburgh
- 2016 – 2018 Member, Tenured Faculty Promotions and Appointments (TFPA) Committee, University of Pittsburgh School of Medicine
- 2017 – present Member, Institute of Clinical Research Education (ICRE) Advisory Committee, University of Pittsburgh School of Medicine
- 2018 Member, Educational Resources Subcommittee for LCME re-accreditation, University of Pittsburgh School of Medicine
- 2018 Reviewer, Central Research Development Fund (CRDF) - Fiscal Year 2019, University of Pittsburgh
- 2020 Reviewer, Pitt Momentum Funds 2020, University of Pittsburgh
- 2021 Member, Pitt Clinical + Translational Resources (CTR) Program Task Force on Data Analytics and Translational/Clinical Database Infrastructure, University of Pittsburgh School of Medicine
- 2022 Reviewer, Bridging Connections in Addiction Research (BCAR), University of Pittsburgh
- 2024 Member, Dickson Prize Selection Committee, University of Pittsburgh School of Medicine

Diversity, Equity, and Inclusion Activities:

- 2011 – present Participate in Computer Science, Biology, and Biomedical Informatics (CoSBBI) high school summer internship program that exposes trainees to biomedical informatics and data science research
- 2020 – present Develop and approve departmental Diversity, Equity, and Inclusion (DEI) plan for recruiting as a member of Strategic Planning Committee, Department of Biomedical Informatics
- 2020 – present Lead CTSI’s DEI initiatives for informatics as Director of the Informatics Core for CTSI

National Service:

- 2008, 2012 Member, Workshop Committee, International Conference on Machine Learning (ICML) Workshop on Machine Learning for Health Care Applications
- 2011 Member, Workshop Committee, Artificial Intelligence in Medicine (AIME 2011) Workshop on Probabilistic Problem Solving in Biomedicine
- 2011 Member, Workshop Committee, International Conference on Machine Learning and Applications (ICMLA 2011) Workshop on Machine Learning in Medicine
- 2011 Member, Program Committee, AMIA Summit on Translational Bioinformatics
- 2012 Track Chair, Program Committee, AMIA Summit on Translational Bioinformatics
- 2013 Member, Program Committee, Twenty-Seventh AAAI Conference on Artificial Intelligence
- 2013 – 2014 Member, Workshop Committee, IEEE international conference on Bioinformatics and Biomedicine (BIBM) Workshop on Biomedical and Health Informatics (BHI)
- 2014 Member, Scientific Program Committee, AMIA Annual Symposium
- 2014 – 2021 Lead, Data Harmonization Work Group, CTSA’s Accrual to Clinical Trials (ACT) network
- 2015 Member, Program Committee, AMIA Summit on Translational Bioinformatics
- 2015 – 2022 Member, IT Roundtable Planning Committee, Clinical Research Forum, 2025 M Street NW, Suite 800 Washington DC 20036
- 2016 Member, Program Committee, AMIA Summit on Translational Bioinformatics
- 2016 – 2017 Member, EHR Working Group, All of Us Research Program of the Precision Medicine Initiative (PMI)
- 2016 – 2017 Member, Data Privacy Working Group, All of Us Research Program of the Precision Medicine Initiative (PMI)
- 2017 – present Member, EHR Operations Group, All of Us Research Program of the Precision Medicine Initiative (PMI)
- 2017 – 2018 Member, Common Data Model Harmonization Committee, FDA's Center for Drug Evaluation and Research and IBM
- 2019 – 2021 Member, Systems Program Committee, IEEE International Conference on Healthcare Informatics (ICHI)
- 2020 – present Member, Phenotype & Data Acquisition and the Data Ingestion & Harmonization Workstreams, National COVID Cohort Collaborative (N3C)
- 2020 – present Member, American Medical Informatics Association (AMIA) Public Policy Committee, Bethesda, MD
- 2020 – present Member, Enterprise Data Warehouse for Research (EDW4R) Working Group, CTSA

- 2021 – present Co-lead, Neurology COVID-19 analytic group, Consortium for Clinical Characterization of COVID-19 by EHR (4CE)
- 2022 – present PD/PI, CTSA’s ENACT network
- 2022 Member, Scientific Program Committee, AMIA Informatics Summit
- 2022 Member, AMIA Artificial Intelligence Evaluation Showcase Scientific Program Committee
- 2023 Member, Scientific Program Committee, AMIA Informatics Summit

International Service:

- 2014 – 2015 Member, External Advisory Board for the National Institute of Health Transformatics, Jawaharlal Institute of Medicine and Surgery Post-Graduate Medical Education and Research (JIPMER), Pondicherry, India
- 2019 Member, Program Committee, 2019 IEEE International Conference on Healthcare Informatics (ICHI 2019), Beijing, China
- 2021 Member, Systems Program Committee, 2021 IEEE International Conference on Healthcare Informatics (ICHI 2021), Victoria, Canada