Xiaoqing Huang

Biostatistics & Health Data Science Department   Phone: +1-979-676-0541
Indiana University, School of Medicine   E-mail: huanxi@iu.edu
Indianapolis, IN, 46202 USA

Education

2020-2024	**Indiana University–Purdue University Indianapolis, IN** PhD in Biostatistics & Health Data Science Advisor: Dr. Kun Huang
2014-2016	**Texas A&M University, College Station, TX** MS in Statistics
2011-2014	**Auburn University, Auburn, AL** MEE in Electrical Engineering

Experience

2024-now	**Indiana University, School of Medicine, Biostatistics and Health Data Science Department** Assistant Research professor
2022-2024	**Food and Drug Administration, Center for Veterinary Medicine , Rockville, MD** Full-time Statistician, Staff Fellow
2019-2020	**Food and Drug Administration, Center for Drug Evaluation and Research, Silver Spring, MD** Full-time Statistician, Staff Fellow
2018-2019	**Food and Drug Administration, Center for Drug Evaluation and Research, Silver Spring, MD** ORISE Research Fellow
2016-2018	**Computational Biology Branch, NCBI/NLM/NIH, Bethesda, MD** ORISE Research Fellow

Honor/Awards

2023	*CVM Visionary Award,* U.S. Food and Drug Administration (FDA)
2021	*Best Oral Presentation Award,* Center for Computational Biology and Bioinformatics (CCBB), School of Medicine, Indiana University
2020	*College of Engineering Fellowship*, Auburn University

Active Funding

2025	Industry Service Pilot Grant with Eli Lilly (**Single PI**)	$199,000
2025	Indiana University Seed Grant (**Single PI**, pending)	$50,000
2025-2029	NIH R01: Investigating the role of TDP-43 mislocalization, structure, and post-translational modifications in the neuropathologically heterogeneous TDP-43 proteinopathies (**co-I**)	$4,844,363
2025-2026	NIH R01: Investigating regional and cellular vulnerabilities to tau pathology in young-onset Alzheimer's disease (**co-I**)	$3,133,987
2025-2026	NIH R01: Apply Novel Pathogenomic Approaches to Identify Interpretable Image QTLs for Multiple Normal Tissues (**co-I**)	$825,226

Publications

Peer-reviewed journal (†shared last authorship, *shared first authorship)

2025   **Huang X**, Jannu A, Song Z, Garfe N, Lasagna-Reeves C, Jonhson T, Huang K, Zhang J. Predicting Alzheimer's Disease Subtypes and Understanding Their Molecular Characteristics in Living Patients with Transcriptomic Trajectory Profiling. Alzheimer's & Dementia: The Journal of the Alzheimer's Association. 2025 January. **(IF: 13)**

Huang X, Raza Muneer Ahemad Hullur A, Jafari E, Shridhar K, Huang K, Mackie K, Zhou M, Wang Y. Leveraging Transcription Factor Physical Proximity for Enhancing Gene Regulation Inference. ISMB/ECCB 2025. 2025 May.

Huang X, Ang A, Huang K, Zhang J, Wang Y. Inhomogeneous graph trend filtering via a $l\{2,0\}$ norm cardinality penalty. IEEE Transactions on Signal and Information Processing over Networks. 2025 March.

Li S, Liu J, Peyton M, Lazaro O, McCabe SD, **Huang X**, Liu Y, Shi Z, Zhang Z, Walker BA, Johnson TS. Multiple Myeloma Insights from Single-Cell Analysis: Clonal Evolution, the Microenvironment, Therapy Evasion, and Clinical Implications. Cancers (Basel). 2025 Feb 14;17(4). doi: 10.3390/cancers17040653. Review. PubMed PMID: 40002248; PubMed Central PMCID: PMC11852428.

2024   Song Z, **Huang X**, Jannu A, Johnson T, Zhang J, Huang K. Identify Alzheimer's disease subtypes and markers from multi-omic data of human brain and blood with a subspace merging algorithm. International Conference on Intelligent Biology and Medicine. ICIBM 2024

Wang Y, Zhou Y, **Huang X**, Huang K, Zhang J, Ma J. Learning Sparse Group Models Through Boolean Relaxation. 2024 International Conference on Learning

Representations. 2024 May.

Martinez P, You Y, Patel H, Jury N, Min Y, Redding J, **Huang X**, Dutta S, Mosley AL, Rochet JC, Zhang J, Ertekin-Taner N, Troncoso JC, Reeves CAL. Basic Science and Pathogenesis. Alzheimer's & Dementia: The Journal of the Alzheimer's Association. 2024 December.

2022 | Martinez P, Patel H, You Y, Jury N, Perkins A, Lee-Gosselin A, Taylor X, You Y, Viana Di Prisco G, **Huang X**, Dutta S, Wijeratne AB, Redding-Ochoa J, Shahid SS, Codocedo JF, Min S, Landreth GE, Mosley AL, Wu YC, McKinzie DL, Rochet JC, Zhang J, Atwood BK, Troncoso J, Lasagna-Reeves CA. Bassoon contributes to tau-seed propagation and neurotoxicity. Nat Neurosci. 2022 Dec;25(12):1597-1607. doi: 10.1038/s41593-022-01191-6. Epub 2022 Nov 7. PubMed PMID: 36344699; PubMed Central PMCID: PMC9708566.

Taylor X, Cisternas P, Jury N, Martinez P, **Huang X**, You Y, Redding-Ochoa J, Vidal R, Zhang J, Troncoso J, Lasagna-Reeves CA. Activated endothelial cells induce a distinct type of astrocytic reactivity. Commun Biol. 2022 Mar 29;5(1):282. doi: 10.1038/s42003-022-03237-8. PubMed PMID: 35351973; PubMed Central PMCID: PMC8964703.

Johnson TS, Yu CY, Huang Z, Xu S, Wang T, Dong C, Shao W, Zaid MA, **Huang X**, Wang Y, Bartlett C, Zhang Y, Walker BA, Liu Y, Huang K, Zhang J. Diagnostic Evidence GAuge of Single cells (DEGAS): a flexible deep transfer learning framework for prioritizing cells in relation to disease. Genome Med. 2022 Feb 1;14(1):11. doi: 10.1186/s13073-022-01012-2. PubMed PMID: 35105355; PubMed Central PMCID: PMC8808996.

Martinez P, Patel H, You Y, Garfe N, Perkins A, You Y, **Huang X**, Dutta S, Wijeratne A, Redding J, Mosley A, Rochet C, Zhang J, Troncoso J, Lasagna-Reeves C. Pathological tau interactors and their role in propagation and neurodegeneration. Alzheimer's & Dementia. 2022.

2021 | **Huang X**, Huang K, Johnson T, Radovich M, Zhang J, Ma J, Wang Y. ParsVNN: parsimony visible neural networks for uncovering cancer-specific and drug-sensitive genes and pathways. NAR Genom Bioinform. 2021 Dec;3(4):lqab097. doi: 10.1093/nargab/lqab097. eCollection 2021 Dec. PubMed PMID: 34729476; PubMed Central PMCID: PMC8557386.

2019 | **Huang X*,** Wojtowicz D*, Sason I*, Kim YA, Leiserson MDM, Przytycka TM, Sharan R. Hidden Markov models lead to higher resolution maps of mutation signature activity in cancer. Genome Med. 2019 Jul 26;11(1):49. doi: 10.1186/s13073-019-0659-1. PubMed PMID: 31349863; PubMed Central PMCID: PMC6660659. **(IF: 15)**

Chai G, **Huang X**, Ma Y, Mehta S, Radin R, Ready T, Soon J, Wittayanukorn S, Woods C, Zhao Y. Generating Real-World Evidence for Prescription Opioid Use with Geographically Referenced Data Enrichment and Machine Learning. American Statistical Association (ASA) Biopharmaceutical Section. 2019.

2018 | **Huang X***, Wojtowicz D, Przytycka TM. Detecting presence of mutational signatures in cancer with confidence. Bioinformatics. 2018 Jan 15;34(2):330-337. doi:

10.1093/bioinformatics/btx604. PubMed PMID: 29028923; PubMed Central PMCID: PMC5860213. (**Citation > 105**)

Invited Talks

2025 | **Predicting Alzheimer's disease subtypes and understanding their molecular characteristics in living patients.** *Indiana Alzheimer's Disease Research Center for Neuroimaging | IU School of Medicine.* Indiana University School of Medicine, 2025

2024 | **Data-driven ADRD Clustering through Longitudinal Proteomics**. *Indiana Alzheimer's Disease Research Center | IU School of Medicine.* Indiana University School of Medicine, 2025

Deep Learning and Optimization in Alzheimer's Disease Subtyping with Omics Profiling. *Biostatistics & Health Data Science Seminar Series*, Indiana University School of Medicine. 2024 February.

2021 | **Understanding The Uncoupling Of Tauopathy And Dementia Through Comparative Analysis Of Subgroups Of Atypical Alzheimer's Disease Patients.** *Poster presentation.* ***Best Oral Presentation Award****. Center for Computational Biology and Bioinformatics.* Indiana University School of Medicine, 2021

2019 | **Detecting Presence Of Mutational Signatures In Cancer With Confidence.** Maryland University, College Park, MD, 2019.