Jonathan Huang

[redacted] | jon@northwestern.edu | [redacted] | Google Scholar

Education

Northwestern University Feinberg School of Medicine — Chicago, IL
Medical Scientist Training Program — *2020 -*
- MD/PhD Candidate in Biomedical Engineering
- Advisor: Mozziyar Etemadi, MD PhD

Brown University — Providence, RI
Bachelor of Science, Neuroscience and Computer Science — *2016 - 2020*
- GPA: 4.0/4.0
- Graduated with Honors in Neuroscience

Research Experience

PhD Thesis: Development and Clinical Integration of Deep Generative Models for Medical Imaging Interpretation | *Etemadi Lab, Northwestern Medicine* — 2022 -
- Developed and prospectively evaluated custom generative vision/language models (Python, PyTorch) for interpretation of x-ray and computed tomography imaging of all anatomy (chest, musculoskeletal, etc.)
- Interfaced closely with clinicians and hospital engineering teams to coordinate model integration and deployment across the Northwestern Medicine system
- Created databases for clinical data abstraction and wrote a library enabling clinically-aware model evaluation
- Developed a custom React web application for users to interactively perform model generation, visualize attention maps, and track live model performance
- Built a system which analyzes model-generated reports and performs SQL queries against hospital databases to notify clinicians of critical studies

Clinical Machine Learning Projects | *Etemadi Lab, Northwestern Medicine* — 2020 - 2022
- Pre-trained a model on an institutional dataset of 800,000 volumetric optical coherence tomography images using self-supervised learning methods and performed glaucoma diagnosis and prognosis
- Contributed to development, clinical implementation, and prospective validation of a natural language processing system to flag radiology studies requiring follow-up

Other Research Activities | *Northwestern University Feinberg School of Medicine* — 2020 - 2022
- Authored several review articles examining key issues in clinical artificial intelligence, including racial bias/equity, lack of transparency and the need for reporting standards, and emerging use cases

Leadership Experience

President | Writes of Passage — 2020-2022
- Founded and led a Feinberg student group focused on medical journalism and outreach for medical professionals

President | Neurological Surgery Interest Group — 2021-2022
- Led a group of Feinberg students interested in neurosurgery by planning events and learning opportunities

Teaching Experience

Teaching Assistant | NEUR 1030: Neural Systems — Fall 2018 & 2019
Department of Neuroscience, Brown University

Teaching Assistant | CSCI 0220: Introduction to Discrete Structures and Probability — Spring 2019
Department of Computer Science, Brown University

Awards & Honors

- Forbes 30 Under 30, Healthcare *2026*
- Trainee Research Prize, RSNA 2025 *2025*
- John P. Donoghue Prize in Neuroscience, Brown University *2020*
- Sigma Xi, Elected *2020*
- Karen T. Romer Undergraduate Teaching and Research Award, Brown University *2019*
- National Merit Scholarship *2016*

Grant Funding

Investigator | "Physician Attitudes Towards Artificial Intelligence and Result Management" 2022
Center for Bioethics and Medical Humanities & Institute for Augmented Intelligence in Medicine

Selected Publications

My full list of publications is available on Google Scholar.

Peer-Reviewed Journal Articles

1. **Huang J**, Wittbrodt MT, Teague CN, et al. Efficiency and Quality of Generative AI–Assisted Radiograph Reporting. *JAMA Network Open.* 2025;8(6):e2513921. doi:doi:10.1001/jamanetworkopen.2025.13921
2. **Huang J**, Neill L, Wittbrodt W, et al. Generative Artificial Intelligence for Chest Radiograph Interpretation in the Emergency Department. *JAMA Network Open.* 2023;6(10):e2336100. doi:10.1001/jamanetworkopen.2023.36100
3. **Huang J**, Galal G, Mukhin V, Etemadi M, Tanna A. Prediction and detection of glaucomatous visual field progression using deep learning on macular OCT. *Journal of Glaucoma.* 2024;33(4). doi:10.1097/IJG.0000000000002359
4. Domingo J, Galal G, **Huang J**, Soni P, Mukhin V, et al. Preventing Delayed and Missed Care by Applying Artificial Intelligence to Trigger Relevant Imaging Follow-Up. *NEJM Catalyst Innovations in Care Delivery.* 2022;3(4). 2023;6(10):e2336100. doi:10.1056/CAT.21.0469
5. **Huang J**, Galal G, Etemadi M, Vaidyanathan M. Evaluation and Mitigation of Racial Bias in Clinical Machine Learning Models: A Scoping Review. *JMIR Medical Informatics.* 2022;10(5). doi:10.2196/36388

Speaking Engagements

AIMS Summit 2025 | Invited Speaker March 13-14, 2025
Panelist for session:

- "Foundational Generative AI Models in Medical Imaging"

Grand Rounds, Northwestern University Department of Anesthesia September 13, 2024
Title of talk:

- "ARIES: Generative AI for Medical Imaging Interpretation"

Dell Technologies World 2024 | Invited Speaker May 20-23, 2024
Panelist for sessions:

- "Charting the Generative AI landscape in healthcare" & "How to choose the right server for current and future AI acceleration needs"