

Jonathan Huang

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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

- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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”