Jonathan Huang

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Education

Northwestern University Feinberg School of Medicine 2020 - 2027
Doctor of Medicine (Medical Scientist Training Program) *Chicago, IL*

Northwestern University 2020 - 2025
Doctor of Philosophy, Biomedical Engineering *Chicago, IL*
- Advised by Mozziyar Etemadi, MD PhD; GPA: 4.0/4.0

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

Awards & Honors

- Forbes 30 Under 30 (Healthcare) *2026*
- Trainee Research Prize, Radiological Society of North America *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*

Professional Experience

Medical Scribe 2019 - 2020
Brown Emergency Medicine *Providence, RI*
- Documented patient encounters for Emergency Department providers

Research Experience

Research Assistant | *Healthcare Integrated Technologies Lab, Northwestern Medicine* 2020 - 2025
- Development, implementation, and prospective evaluation of clinical machine learning tools relating to vision/language tasks in radiology and ophthalmology under the supervision of Dr. Mozziyar Etemadi

Research Assistant | *Barnea Lab, Brown University* 2018 - 2020
- Honors thesis: "Genetic Targeting of Precise Intersectional Neuronal Populations Using *trans*-Tango" under the supervision of Dr. Gilad Barnea

Teaching Experience

Teaching Assistant | BME 305: Quantitative Systems Physiology Winter 2025
Department of Biomedical Engineering, Northwestern University

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

Leadership Experience

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

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

Grant Funding

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

Intellectual Property

1. "Assessment of clinical evaluations from machine learning systems"
   U.S. Patent 12,505,917, Dec. 23, 2025

2. "Assessment of clinical evaluations from machine learning systems"
   U.S. Patent 12,450,887, Oct. 21, 2025

Publications

Peer-Reviewed Original Research:

1. Rabin EE, Reyes SG, Chandrasekar S, Huang B, **Huang J**, et al. Minimally Invasive Transforaminal Lumbar Interbody Fusion: Outcomes and Complications of Single and Multilevel Fusions in Younger and Older Adults. *Spine Open.* 2025;1(2):e0037. doi:10.1097/bn9.0000000000000037

2. Kaklamanos E, Kristinsdottir K, **Huang J**, et al. From Scope to Script: An Automated Report Generation Model for Gastrointestinal Endoscopy. *MICCAI Workshop on Deep Generative Models.* 2025;16128:131-140. doi:10.1007/978-3-032-05472-2_13

3. **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:10.1001/jamanetworkopen.2025.13921

4. **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):246-253. doi:10.1097/IJG.0000000000002359

5. Kim E, Stec M, Shaikh N, **Huang J**, Ranaivo HR, Mets-Halgrimson R. Refractive changes in children in the Chicago area during the COVID-19 pandemic: a retrospective observational study. *British Journal of Ophthalmology.* 2025;109:543-548. doi:10.1136/bjo-2024-325984

6. Rabin EE, **Huang J**, Kim M, et al. Age-stratified comorbid and pharmacologic analysis of patients with glioblastoma. *Brain, Behavior, & Immunity - Health.* 2024;38:100753. doi:10.1016/j.bbih.2024.100753

7. Ellis EM, Drumm MR, Rai S, **Huang J**, et al. Patterns of Antiseizure Medication Use Following Meningioma Resection: A Single-Institution Experience. *World Neurosurgery.* 2024;181:e392-e398. doi:10.1016/j.wneu.2023.10.068

8. **Huang J**, Neill L, Wittbrodt M, 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

9. **Huang J**, Rossen J, Rahmani B, Mets-Halgrimson R. Pediatric Eyelid and Canalicular Lacerations: Epidemiology and Outcomes. 2023;60(1):33–38. *Journal of Pediatric Ophthalmology and Strabismus*. doi:10.3928/01913913-20220321-02

10. Dombrovsky D, Gajjar AA, **Huang J**, Barpujari A, Singh R, Patel NP. Cross-sectional analysis of neurosurgical residency websites during the virtual interview cycle. *World Neurosurgery*. 2023;180:e158-e162. doi:10.1016/j.wneu.2023.09.018

11. Ellis EM, Drumm MR, Rai S, **Huang J**, et al. Long-term antiseizure medication use in patients after meningioma resection: identifying predictors for successful weaning and failures. *Journal of Neuro-Oncology*. 165(1):201-207. doi:10.1007/s11060-023-04481-6

12. 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). doi:10.1056/CAT.21.0469

13. **Huang J**, Basith S, Patel S, Weisman A, Brickman W, Mets M, Mets-Halgrimson R. Ocular Findings in Pediatric Turner Syndrome. *Ophthalmic Genetics*. 2022;43(4). doi:10.1080/13816810.2022.2045512

Review Articles:

1. Alleman K, Knecht E, **Huang J**, Zhang L, Lam S, DeCuypere M. Multimodal Deep Learning-Based Prognostication in Glioma Patients: A Systematic Review. *Cancers*. 2023;15(2):545. doi:10.3390/cancers15020545

2. Shlobin NA, **Huang J**, Wu C. Learning curves in robotic neurosurgery: a systematic review. *Neurosurgical Review*. 2023;46(1):1-23. doi:10.1007/s10143-022-01908-y

3. **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

4. Huang BB, **Huang J**, Swong KN. Natural Language Processing in Spine Surgery: A Systematic Review of Applications, Bias, and Reporting Transparency. *World Neurosurgery*. 2022;167:156-164. doi:10.1016/j.wneu.2022.08.109

5. Shlobin NA, **Huang J**, Lam SK. Health Literacy in Neurosurgery: A Scoping Review. *World Neurosurgery*. 2022;166:71-87. doi:10.1016/j.wneu.2022.07.023

6. **Huang J**, Shlobin NA, DeCuypere M, Lam SK. Deep Learning for Outcome Prediction in Neurosurgery: A Systematic Review of Design, Reporting, and Reproducibility. *Neurosurgery*. 2022;90(1):16-38. doi:10.1227/NEU.0000000000001736

7. **Huang J**, Shlobin NA, Lam SK, DeCuypere M. Artificial Intelligence Applications in Pediatric Brain Tumor Imaging: A Systematic Review. *World Neurosurgery*. 2022;157:99-105. doi:10.1016/j.wneu.2021.10.068

8. **Huang J**, Rabin EE, Stricsek G, Swong KN. Outcomes and Complications of Minimally Invasive Transforaminal Lumbar Interbody Fusion in the Elderly: A Systematic Review and Meta-Analysis. *Journal of Neurosurgery: Spine*. 2021;12:1-12. doi:10.3171/2021.7.SPINE21829

Case Reports:

1. LoPresti MA, **Huang J**, Shlobin NA, Curry DJ, Weiner HL, Lam SK. Vagus nerve stimulator revision in pediatric epilepsy patients: a technical note and case series. *Child's Nervous System*. 2022. doi:10.1007/s00381-022-05769-0

2. **Huang J**, Murthy KN, Franz C, Samet J, Deshmukh S, Swong KN. Anterior Interosseous Nerve Neuropathy in a Patient with Spinal Cord Injury: Case Report and Literature Review. *Spinal Cord Series and Cases*. 2022;8(1):61.

Oral Presentations:

1. **Huang J**, Wittbrodt M, Teague C, et al. Efficiency Impacts of Draft Computed Tomography Reporting by Generative AI. *RSNA 2025*. Chicago, IL. Dec 2025.

2. **Huang J**, Rabin EE, Chandrasekar S, Selner AN, Swong KN. Utility of Intraoperative Neuromonitoring in Minimally Invasive Posterior Lumbar Fusion. *Spine Summit 2022*. Las Vegas, NV. Feb 2022.

3. **Huang J**, Rabin EE, Swong KN. Outcomes and Complications of Minimally Invasive Transforaminal Lumbar Interbody Fusion in the Elderly: A Systematic Review and Meta-Analysis. *SMISS Annual Forum 2021*. Las Vegas, NV. Oct 2021.

Peer-Reviewed Abstracts:

1. Rabin EE, Mi X, **Huang J**, et al. Age-Stratified Survival Analyses of Pharmacological Treatments in Patients with Glioblastoma. *Society for Neuro-Oncology Annual Meeting 2022*. Toronto, Canada. August 2022.

2. Rabin EE, Mi X, **Huang J**, et al. Age-Stratified Survival Analyses of Co-Morbidities in Patients with Glioblastoma. *Society for Neuro-Oncology Annual Meeting 2022*. Toronto, Canada. August 2022.

3. **Huang J**, Konopek N, Moonjely J, Fawzi A. Semi-Automated Blood Velocity Determination Using Adaptive Optics Scanning Laser Ophthalmoscopy XT Images. *ARVO 2022 Annual Meeting*. Denver, CO. May 2022.

4. **Huang J**, Rabin E, Chandrasekar S, Swong K. Minimally Invasive Transforaminal Lumbar Interbody Fusion in Elderly Patients. *American Association of Neurological Surgeons Annual Scientific Meeting*. Philadelphia, PA. April 2022.

5. **Huang J**, Rabin E, Chandrasekar S, Shlobin N, Swong K. Impact of Resident Involvement in Minimally Invasive Transforaminal Lumbar Interbody Fusion. *American Association of Neurological Surgeons Annual Scientific Meeting*. Philadelphia, PA. April 2022.

6. Ellis E, **Huang J**, Drumm M, Rai S, Yerneni K, et al. Risk Factors for Postoperative Seizures and Long-Term AED Use following Meningioma Resection. *American Association of Neurological Surgeons Annual Scientific Meeting*. Philadelphia, PA. April 2022.

7. Gajjar A, **Huang J**, Shlobin N, Le A, Jain A, Dahdaleh N. Top Social Media Influencers in Neurosurgery: An Analysis of Twitter Data. *American Association of Neurological Surgeons Annual Scientific Meeting*. Philadelphia, PA. April 2022.

8. **Huang J**, Rossen J, Rahmani B, Mets-Halgrimson R. Pediatric Eyelid and Canalicular Lacerations: Epidemiology and Outcomes, *AAPOS 2022 Annual Meeting*. Scottsdale, AZ. Mar 2022.

9. Nadimpalli S, **Huang J**, Ralay-Ranaivo H, Mets-Halgrimson R. Association of Fusional Amplitudes with Surgical Outcomes in Pediatric Strabismus, *AAPOS 2022 Annual Meeting*. Scottsdale, AZ. Mar 2022.

10. Kim E, Stec M, Shaikh N, **Huang J**, Ralay Ranaivo H, Mets-Halgrimson R. Refractive Changes in Children in the Chicagoland Area during the COVID-19 Pandemic. *AAPOS 2022 Annual Meeting*. Scottsdale, AZ. Mar 2022.

11. Domingo JE, Soni P, Galal GO, Mukhin V, **Huang J** et al. Natural Language Processing for Detection and Reporting of Findings Requiring Follow-Up in Radiology Reports. *Diagnostic Error in Medicine 14th Annual International Conference*. Virtual Conference, Oct 2021.

12. **Huang J**, Shlobin NA, DeCuypere M, Lam SK. Deep Learning for Outcome Prediction in Neurosurgery: A Systematic Review. *American Association of Neurological Surgeons Annual Scientific Meeting*. Orlando, FL. Aug 2021.

13. **Huang J**, LoPresti MA, Shlobin NA, Lam SK. Vagus Nerve Stimulator Revision in Pediatric Epilepsy Patients: A Case Series. *American Association of Neurological Surgeons Annual Scientific Meeting*. Orlando, FL. Aug 2021.

Invited Talks

AIMS Summit 2025 March 13-14, 2025
Invited Speaker & Panelist

- "Foundational Generative AI Models in Medical Imaging"

Grand Rounds, Northwestern University Department of Anesthesia September 13, 2024
Invited Speaker

- "ARIES: Generative AI for Medical Imaging Interpretation"

Dell Technologies World 2024 May 20-23, 2024
Invited Speaker & Panelist

- "Charting the Generative AI landscape in healthcare" & "How to Choose the Right Server for Current and Future AI Acceleration Needs"