# Adam Li

Neural Data Scientist and Researcher · Applied Causal Machine Learning · Statistics and Mathematics · Engineering Leadership and Project Management

(+1) 805-807-5898 | adam.li@columbia.edu | adam2392.github.io | adam2392 | adam2392 | Adam-Li-5 | adam2392

## Positions

**Postdoctoral Research Scientist in the Causal AI Lab** — *New York City, NY*

Columbia University | Computer Science Department | Advisor: Elias Bareinboim — *Jan. 2022 - Jan. 2024 (tentatively)*

- NSF Computing Innovation Fellow

## Education

**PhD in Biomedical Engineering** — *Baltimore, MD*

Johns Hopkins University | GPA: 3.8 | Advisor: Dr. Sridevi Sarma — *Aug. 2015 — Dec 2021*

- Thesis: *Localization of the Epileptogenic Zone: A Dynamical Systems Perspective*
- NIH NETI Fellow, NSF-GRFP Fellow, Whitaker Fellow, Chateaubriand Fellow, ARCS Chapter Scholar

**MS in Applied Mathematics and Statistics** — *Baltimore, MD*

Johns Hopkins University | GPA: 3.8 | Advisor: Carey Priebe — *Aug. 2019 — May 2021*

- Coursework in: Statistical Learning Theory, Optimization, Matrix Analysis, Real Analysis

**B.S. Bioengineering, B.S. Mathematics - Applied Sciences** — *La Jolla, CA*

University of California San Diego | Major GPA: 3.75 — *Sep. 2010 — Mar. 2015*

- Tau Beta Pi, Gordon Scholar & Fellow, Provost's Honors

## Journal Publications, Preprints and Working Submissions

**Neural Fragility as an EEG Marker of the Seizure Onset Zone** — *2021*

**Adam Li**, C. Huynh, Z. Fitzgerald, I. Cajigas, D. Brusko, J. Jagid, A. Claudio, A. Kanner, J. Hopp, S. Chen, J. Haagensen, E. Johnson, W. Anderson, N. Crone, S. Inati, K. Zaghloul, J. Bulacio, J. Gonzalez-Martinez, S. V. Sarma — *Nature Neuroscience (Oct Cover)*

**Quantitative approaches to guide epilepsy surgery from intracranial EEG** — *2023*

**Adam Li***, J. Bernabei*, A. Revell, N. Sinha, R. J. Smith, K. Gunnarsdottir, I. Ong, S. V. Sarma, B. Litt — *Brain*

**Manifold Oblique Random Forests: Closing the Gap on Convolutional Neural Networks** — *2022*

**Adam Li***, R. Perry*, C. Huynh*, T. M. Tomita, R. Mehta, J. Arroyo, J. Patsolic, B. Falk, S. V. Sarma, J. T. Vogelstein — *SIMODS*

**Source-sink connectivity: A novel interictal EEG marker for seizure localization** — *2022*

Gunnarsdottir, K., **Li, Adam**, Smith, R., Kang, J., Korzeniewska, A., Crone, N., Rouse, A., Cheng, J., Kinsman, M., Landazuri, P., Uysal, U., Ulloa, C., Cameron, N., Cajigas, I., Jagid, J., Kanner, A., Elarjani, T., Bicchi, M., Inati, S., Zaghloul, K., Boerwinkle, V., Wyckoff, S., Barot, N., Gonzalez-Martinez, J., Sarma, S. — *Brain*

**Classification of Stereo-EEG Contacts in White Matter vs. Gray Matter Using Recorded Activity** — *2021*

P. Greene, **Adam Li**, J. González-Martínez, S. V. Sarma — *Frontiers in Neurology*

**Using network analysis to localize the epileptogenic zone from invasive EEG recordings in intractable focal epilepsy** — *2018*

**Adam Li***, B. Chennuri*, S. Subramanian, R. Yaffe, S. Gliske, S. William, R. Norton, A. Jordan, K. Zaghloul, S. Inati, S. Agrawal, J. Haagensen, J. Hopp, C. Atallah, E. Johnson, N. Crone, W. Anderson, Z. Fitzgerald, J. Bulacio, J. Gale, S. V. Sarma, J. Gonzalez-Martinez — *Network Neuroscience*

**MNE-ICALabel: Automatically annotating ICA components with ICLabel in Python** — *2022*

**Adam Li**, J. Feitelberg, A. Saini, M. Scheltienne — *Journal of Open Source Software*

**Neural Fragility of the Intracranial EEG Network Decreases after Surgical Resection of the Epileptogenic Zone** — *2021*

**Adam Li**, P. Myers, N. Warski, K. Gunnarsdottir, S. Kim, V. Jirsa, A. Oichi, H. Otusbo, G. Ibrahim, S. V. Sarma — *In Review at Journal of Neurosurgery*

**Causal machine learning to localize the epileptogenic zone** — *2022*

**Adam Li**, A. Ribeiro, E. Bareinboim — *In progress*

**Optimal conditioning criterion for partial ancestral graphs: causal estimation and discovery** — *2022*

**Adam Li**, A. Ribeiro, E. Bareinboim — *In progress*

**Estimating conditional mutual information with geodesic random forests: applications to causal discovery** — *2022*

**Adam Li**, A. Ribeiro, J. Vogelstein — *In progress*

## Patents

**Quantitative epilepsy diagnosis from scalp EEG** — *Provisional Patent*

Nirav Barot, Jorge Gonzalez-Martinez, Kristin Gunnarsdottir, Khalil Husari, Adam Li, Patrick Myers, Sridevi Sarma — *Sept. 6th, 2022*

**Identifying the Epileptogenic Zone using Network Fragility Theory** — *Patent Application No. 16/348,766*

Sridevi Sarma, Adam Li, Jorge Gonzalez — *Nov. 11th, 2017*

**Method and device for localizing epileptogenic zones** — *Patent Application No. 17/597,211*

Sridevi Sarma, Adam Li — *Feb. 11th, 2019*

**GEAR (Game Enhancing Augmented Reality) - A lower limb alternative control interface for computers.** — *Patent Application No. 16/309,183*

Gyorgy Levay, Adam Li, Nate Tran — *May 23rd, 2016*

## Peer-Reviewed Conference Proceedings

**Temporal and morphological characteristics of high-frequency oscillations in an acute in vivo model of epilepsy** — *IEEE EMBS - EMBC*

Sophia Zhai, Daniel Ehrens, Adam Li, Fadi Assaf, Yitzhak Schiller , Sridevi V. Sarma, Rachel June Smith — *Glasgow, Scotland UK 2022*

**Network Fragility in Seizure Genesis in an Acute in vivo Model of Epilepsy** — *IEEE EMBS - EMBC*

Adam Li, Daniel Ehrens, Fadi Aeed, Yitzhak Schiller, Sridevi V Sarma — *Montreal, Canada 2020*

**Evaluating Invasive EEG Implantations in Medically Refractory Epilepsy with Functional Scalp EEG Recordings and Structural Imaging Data** — *IEEE EMBS - EMBC*

Anil Palepu, Adam Li, Zachary Fitzgerald, Katherine Hu, Julia Costacurta, Juan Bulacio, Jorge Martinez-Gonzalez, Sridevi V Sarma — *Berlin, Germany 2019*

**Virtual Cortical Stimulation Mapping of Epilepsy Networks to Localize the Epileptogenic Zone** — *IEEE EMBS - EMBC*

Adam Li, Sridevi V Sarma, Zachary Fitzgerald, Jennifer Hopp, Emily Johnson, Nathan Crone, Juan Bulacio, Jorge Martinez-Gonzalez, Sara Inati, Kareem Zaghloul — *Berlin, Germany 2019*

**Linear Time-Varying Model Characterizes Invasive EEG Signals Generated from Complex Epileptic Networks** — *IEEE EMBS - EMBC*

Adam Li, Kristin M. Gunnarsdottir, Sara Inati, Kareem Zaghloul, John Gale, Juan Bulacio, Jorge Martinez-Gonzalez, Sridevi Sarma — *Jeju, South Korea 2017*

**Fragility in epileptic networks: The epileptogenic zone** — *American Control Conference*

Adam Li, Sara Inati, Kareem Zaghloul and Sridevi Sarma — *Seattle, WA 2017*

**Estimating Unmeasured Invasive EEG Signals Using a Reduced Order Observer** — *IEEE EMBS - EMBC*

Kristin M. Gunnarsdottir, Adam Li, Juan Bulacio, Jorge Gonzalez-Martinez, Sridevi V. Sarma — *Jeju, South Korea 2017*

## Citeable Scientific Software

**mne-python [https://github.com/mne-tools/mne-python]** *2022*

10.5281/zenodo.592483 (see online for full author list)

**pybv – A lightweight I/O utility for the BrainVision data format. [https://github.com/bids-standard/pybv]** *2022*

Appelhoff, S., Brunner, C., Stenner, T., Holdgraf, C. R., Höchenberger, R., **Li, Adam**, Alday, P., & Pradhan, A.

**mne-connectivity (Version 0.2.0) [https://github.com/mne-tools/mne-connectivity]** *2022*

**Li, A.**, McCloy, D., Larson, E., Westner, B., Kroner, A., & Gramfort, A.

**mne-bids (Version 0.10.0) [https://github.com/mne-tools/mne-bids]** *2022*

Appelhoff, Stefan, et al., **Li, Adam**, Gramfort, Alexandre, & Jas, Mainak.

## Open Source Software Volunteering

I have extensive experience working in asynchronous teams on code reviews, unit testing with **pytest**, continuous integration, API designs and discussion and implementing robust code in **Python, Cython and C++**. I have also worked with **Javascript**. All our organizations are dedicated to diversity, equity and inclusion and commonly host office hours, community development and public forums.

**PyWhy | https://github.com/py-why**

Contributor - Causality discovery, identification, estimation and refutation in Python *2022 — Present*

**scikit-learn | https://github.com/scikit-learn/scikit-learn** *Integration of Oblique Trees*

Contributor - Machine Learning in Python, Cython, C++ *2021 — Present*

**MNE-ICALabel | https://github.com/mne-tools/mne-icalabel**

Maintainer - Automatic ICA labeling with Python *2022 — Present*

**MNE-Connectivity | https://github.com/mne-tools/mne-connectivity** *Google Summer of Code 2021*

Developer - Python connectivity analysis for neural data *2021 — Present*

**Stereotactic EEG Kit (SEEK) | https://github.com/ncsl/seek**

Core Maintainer - Data pipeline for neuroimaging data *2019 — Present*

**MNE-HFO | https://github.com/adam2392/mne-hfo**

Core Developer - Digital signal processing of high-frequency oscillations in Python *2020 — Present*

**BIDS | https://github.com/bids-standard/bids-specification**

Electrophysiology Team Member - Open-Access scientific data organization and API design *2019 — Present*

**MNE-Python | https://github.com/mne-tools/mne-python**

Core Developer - Electrophysiological digital signal processing and visualization in Python *2019 — Present*

**MNE-BIDS | https://github.com/mne-tools/mne-bids**

Contributor - Robust and efficient data loading and formatting for MEG/EEG/iEEG *2019 — Present*

**pybids | https://github.com/https://github.com/bids-standard/pybids**

Contributor - Querying of large-scale formatted datasets *2019 — Present*

**bids-validator | https://github.com/https://github.com/bids-standard/bids-validator**

Contributor - Validation of BIDS datasets according to a standard *2019 — Present*

**pyDMD | https://github.com/mathLab/PyDMD**

Contributor - Dynamic Mode Decomposition in Python *2019 — 2020*

**The Virtual Brain (TVB) | https://github.com/the-virtual-brain/tvb-root**

Contributor - Computational neuroscience whole-brain simulation platform *2017 — 2018*

## Honors & Awards

| | | |
|---|---|---|
| 2022 | **Schmidt Science Fellowship Finalist**, Post-doctoral Fellowship | *Washington, DC* |
| 2020 | **ARCS Chapter Fellowship**, 1 of 3 awardees - Pre-doctoral Fellowship | *Washington, DC* |
| 2019 | **Whitaker Conclusion Grant**, 1 of 5 teams awarded $100k - Outreach Fellowship | *USA* |
| 2017 | **Chateaubriand STEM Research Fellowship**, Pre-doctoral international fellowship | *France* |
| 2017 | **Whitaker Research Fellowship**, Pre-doctoral international fellowship | *France* |
| 2017 | **NSF**, Graduate Research Fellowship | *USA* |
| 2016 | **NSF**, Graduate Research Fellowship - Honorable Mention | *USA* |
| 2016 | **Intel Cornell Cup**, 1st place | *USA* |
| 2015 | **NIH NETI**, Graduate training fellowship | *Baltimore* |
| 2015 | **Frontiers of Innovation Scholars**, undergraduate research fellowship | *UCSD* |
| 2014 | **IDEA Center Scholar**, undergraduate research fellowship | *UCSD* |
| 2014 | **Gordon Fellow**, undergraduate leadership award | *UCSD* |
| 2014 | **ASAIO Student Design Competition**, top 27 in USA | *USA* |
| 2013 | **Amgen Scholar**, undergraduate research fellowship | *UCSD* |
| 2013 | **Gordon Leadership Scholar**, undergraduate leadership | *UCSD* |
| 2012 | **CalIT Scholar**, undergraduate research fellowship | *UCSD* |

## Entrepreneurial Awards

2022 **KPCB (Kleiner Perkins VC) Engineering Fellow**,
2021 **NSF SBIR Phase I Grant**,
2019 **Maryland Innovative Initiative (MII) Grant**,
2018 **NSF SBIR Phase I Grant**,
2014 **NCIIA E-Team Grant**,
2013 **Health and Life Sciences Grant**,
2013 **Von Liebig NSF I-Corps Fellow** ,

## Grants - Total=$644,000

**NSF Computing Innovation Fellowship Grant (2127309) - Postdoctoral Fellowship** *$150k*

January 1, 2022 — January 1, 2024 | Causal Reinforcement Learning with Unknown Causal Structure: An Application to Treatment of Drug-Resistant Epilepsy Patients. Awarded 69 out of 238 ( 28% Rate).

**NSF SBIR Phase-I Grant (2112011) - Co PI** *$256k*

May 15, 2021 — April 30, 2022 | Improving Diagnosis of Epilepsy by Applying Network Analytics to Non-Seizure Scalp EEG Data

**Whitaker Phase I Conclusion Grant - Co PI** *$100k*

Jan. 2019 — Jan. 2023 | Outreach for Biomedical Science story-telling around the world. 1 of 5 awardee groups.

**NSF Graduate Research Fellowship Program (DGE 1746891)** *$138k*

2016 — 2021 | Improving Diagnosis of Epilepsy by Applying Network Analytics to Non-Seizure Scalp EEG Data

## Experience

### Research Experience

**Postdoctoral Research Scientist, Causal AI Lab, Columbia University** *Jan. 2022 — Jan. 2024*
**Advisor: Dr. Elias Bareinboim**

- Develop causal machine learning method for optimal adjustment in uncertain causal settings for estimating causal quantities.
- Develop causal machine learning Python software in collaboration with Amazon, Microsoft and IBM researchers at Py-Why.

**Graduate Research Assistant, Neuromedical Control Systems Lab, Johns Hopkins University** *Aug. 2015 — Dec. 2021*
**Advisor: Dr. Sridevi Sarma**

- Coordinated data pipeline of electrophysiological and clinical data of epilepsy patients from 5 hospitals in coordination with clinicians in setting up a HIPAA-compliant server for highly parallelized data analysis, resulting in **Nature Neuroscience publication**.
- Identified and developed signal processing and statistical analysis of clinical multi-modality datasets that resulted in over 400 pull requests merged in open-source packages with up to 1,000's of users (**Git, CI, unit-testing, software design & development**)
- Developed statistical and machine learning models on multivariate time series EEG, clinical and neuroimaging MRI and CT data to analyze different seizure localization models (model building & validation with **scikit-learn/keras/pytorch**, data wrangling with **pandas,numpy**).
- Coordinated open-source discussions on EEG and iEEG data formatting in a 79 international team of researchers on Github (**technical communication of the Brain Imaging Data Structure - BIDS**)
- Coordinated a team of engineers to develop a structure-aware Random Forest algorithm in Python and Cython to perform manifold learning (to be implemented as a PR into **scikit-learn**).

**Visiting Research Scientist, Theoretical Neurosciences Group, Aix-Marseille University** *Sep. 2017 — Sep. 2018*
**Advisors: Dr. Viktor Jirsa, Dr. Sridevi Sarma**

- Developed a high-throughput parallelized data pipeline for multi-modality 3D brain imaging using **Bash and Snakemake (Python DAG engine)** resulting in robust 3D brain visualizations.
- Designed **nonlinear biophysical simulation models** with **linear dynamical systems analysis** to predict the surgical outcome in epileptic patients resulting in a paper to be submitted to Brain
- Developed a supervised deep learning pipeline using nonlinear computational modeling and a Recurrent-CNN model to perform patient-specific seizure detection (**Python/Keras/Pytorch**)
- Implemented open-source code on *The Virtual Brain* (a Human Brain Project) for generating observational noise, analysis of simulated source signals and scientific demos

## Work Experience

**PhD Software Engineering Intern at Uber (KPCB Fellow)** *Sep. 2022 — Dec. 2022*

- Part of the Kleiner Perkins Fellows Program, a prestigious program partnering the best engineers with startups (acceptance rate < 5%).
- Led research & development of a causal machine learning model (applied to 100M+ samples) to dynamically match users with promotional campaigns demonstrating a potential **3-8% increase in profit margins for USA Eats platform.**
- Developed solution to enable Python3.8+ in PySpark and SparkMagic Jupyter notebooks, enabling users to upgrade and reduce technical debt in data science workflows with Python, Hive and Hadoop.

**Co-Founder and CTO, Neurologic Solutions Corp.** *Sep. 2018 — Dec. 2021*

- Raised over $600K to-date (Two NSF SBIR Phase I $225k, Mayland Innovation Initiative $150k, $10K JHTV Pitch Competition).
- Filed provisional patents and full patents in the USA, European and Japan markets through collaboration with Johns Hopkins Technology Ventures (JHTV).
- Led product development of software product with team of 3 software engineers for helping clinicians localize the epileptogenic zone in epileptic patients (AWS infrastructure with Kubernetes and Flux, REST API, algorithm development, UX design and data engineering).
- Led **510k FDA** approval process with a team of 5 engineers, consultants and advisors involving risk analysis, software requirements, design specifications, and user-testing (unit testing, continuous integration, and software documentation).

**Co-Founder, Biometrics Analytics** *Jun. 2012 — Sep. 2015*

- Researched & developed novel ways to evaluate Parkinson's Disease using biometric sensors and robust data analysis; led team in data acquisition of human data, data analysis and statistical analysis using MATLAB and Python.
- Led data acquisition of clinical data and full-body pose data from the Microsoft Kinect. Performed data analysis using machine learning and image processing algorithms (MATLAB, Python and C++).
- Raised over $20,000 and obtained an IRB for a pilot clinical human study, resulting in the Gordon Fellowship Award for outstanding engineering leadership (awarded to 3 students/year at UCSD).
- Worked in a team of 4 for the Von Liebig NSF I-Corps Program and the NCIIA Entrepreneurship Program ( 15% acceptance rate) for startup incubation.

**Data Processing Intern, West Health Institute 501(C)** *Jun. 2014 — Jun. 2015*

- Wrote pymongo queries running on an event scheduler (Python, MongoDB) that provided computed features of game play and behavior for the clinical team to analyze behavior during experiments.
- Developed clinical web forms using HTML, CSS, JavaScript, which are then linked to an AWS server running MongoDB with Node.js (git and general version control).
- Built an Android application that created a custom launch screen for the clinical team with Java and XML.
- Researched and recommended technological improvements to data collection that could be incorporated into the analytics group at the institute for the treatment of Autism Spectrum Disorder.

**Project Team Leader, West Health Institute 501(C)** *Jun. 2014 — Jun. 2015*

- Wrote pymongo queries running on an event scheduler (Python, MongoDB) that provided computed features of game play and behavior for the clinical team to analyze behavior during experiments.
- Developed clinical web forms using HTML, CSS, JavaScript, which are then linked to an AWS server running MongoDB with Node.js (git and general version control).
- Built an Android application that created a custom launch screen for the clinical team with Java and XML.
- Researched and recommended technological improvements to data collection that could be incorporated into the analytics group at the institute for the treatment of Autism Spectrum Disorder.

**Process Development Engineering Intern and College Ambassador, Genentech** *Aug. 2010 — Aug. 2011*

- Collaborated with Genentech College Programs to improve online engagement by 60%, while coordinating events with directors and human resources that drew in over 200 attendees.
- Implemented a new batch control process using Rockwell Automation and PLCs to automate chromatography purification process (used SQL and Python).

## Teaching

**Teaching Assistant** *Baltimore, MD*

NeuroData Design Course (BME 580.638) - develop open source contributions to Python scientific computing libraries *Sep. 2019 — Jan 2020*

**Head Teaching Assistant** *Baltimore, MD*

Systems Bioengineering II Course (BME 580.424) - 150 students and 6 TAs *Jan. 2019 — May 2019*

**Teaching Assistant** *La Jolla, CA*

Data Structures Course (CSE 12) - C, C++ *Sep. 2014 — May 2015*

## Conference Presentations and Posters

**Neural Fragility of the Intracranial EEG Network Decreases Intraoperatively after Surgical Resection of the Epileptogenic Zone in Children with Epilepsy** *Chicago, USA*

American Epilepsy Society *Dec. 2021*

**Adam Li**, Patrick Myers, Chester Huynh, Nebras Warsi, Kristin M. Gunnarsdottir, Soo Kyung S. Kim, Viktor Jirsa, Sridevi V. Sarma and George M. Ibrahim

**Neural Fragility as an EEG Marker of the Seizure Onset Zone** *Chicago, USA*

American Epilepsy Society *Dec. 2021*

Patrick Myers, **Adam Li**, C. Huynh, Z. Fitzgerald, I. Cajigas, D. Brusko, J. Jagid, A. Claudio, A. Kanner, J. Hopp, S. Chen, J. Haagensen, E. Johnson, W. Anderson, N. Crone, S. Inati, K. Zaghloul, J. Bulacio, J. Gonzalez-Martinez, S. V. Sarma

**Neural Fragility of Intracranial EEG Networks: Towards an EEG Fingerprint for the Seizure Onset Zone** *Baltimore, USA*

Neuromatch 3.0 Conference *Oct. 2020*

**Adam Li**, C. Huynh, Z. Fitzgerald, I. Cajigas, D. Brusko, J. Jagid, A. Claudio, A. Kanner, J. Hopp, S. Chen, J. Haagensen, E. Johnson, W. Anderson, N. Crone, S. Inati, K. Zaghloul, J. Bulacio, J. Gonzalez-Martinez, S. V. Sarma

**Automated classification of stereo-EEG contacts in white matter versus gray matter using recorded activity** *Montreal, Canada (virtual)*

IEEE Engineering in Medicine and Biology *Jul. 2020*

**Adam Li**, Patrick Greene, Jorge Martinez-Gonzalez, Sridevi Sarma

**Towards Automatic Localization and Anatomical Labeling of Intracranial Depth Electrodes in Brain Images** *Montreal, Canada (virtual)*

IEEE Engineering in Medicine and Biology *Jul. 2020*

**Adam Li**, Chester Huynh, Jorge Martinez-Gonzalez, Sridevi Sarma

**Semi-Automatic SEEG Localization and Interactive Neuroimage Visualization in Epilepsy Patients** — *Montreal, Canada*

Organization for Human Brain Mapping — *June 23 - July 3, 2020*

**Adam Li**, Chester Huynh, Christopher Coogan, Sridevi Sarma

**MNE-BIDS: MNE-Python + BIDS = easy dataset interaction (Version 1.0.1)** — *Montreal, Canada*

Organization for Human Brain Mapping — *June 23 - July 3, 2020*

Stefan Appelhoff, **Adam Li**, et al. - 10.5281/zenodo.3891836

**Identification of the Epileptogenic Zone from Intracranial Electrocorticography with a Novel Network Fragility Algorithm in Patients with Temporal-Lobe Epilepsy** — *Virtual*

AANS — *Jun. 2020*

Iahn Cajigas, Damian Brusko, Angel Claudio, **Adam Li**, Sridevi Sarma, Andres Kanner, Jonathan Jagid

**Application of A Network Fragility Algorithm for the Identification of the Epileptogenic Zone from Intracranial Electrocorticography in Patients with Temporal-Lobe Epilepsy** — *Baltimore, MD*

American Epilepsy Society — *Nov. 2019*

**Adam Li**, Iahn Cajigas, Damian Brusko, Angel Claudio, Andres Kanner, Jonathan Jagid, Sridevi Sarma

**Using personalized brain models to augment datasets for deep learning** — *Janelia, HHMI, USA*

Workshop on Machine Learning and Computer Vision — *Apr. 2019*

**Adam Li**, Sridevi Sarma, Viktor Jirsa

**Integrating Large Brain Networks and Network Analysis to Understand The Epileptogenic Zone** — *Seattle, WA*

Organization for Computational Neuroscience — *Jul. 2018*

**Adam Li**, Marmaduke Woodman, Sridevi Sarma, Viktor Jirsa

**Integrating Large Brain Networks and Network Analysis to Understand The Epileptogenic Zone** — *Tuscany, Italy*

Advanced Course on Data Science & Machine Learning — *Jul. 2018*

**Adam Li**, Sridevi Sarma, Viktor Jirsa

**T101. Use of a quantitative algorithm to help predict seizure lateralization in a patient with bitemporal epilepsy and responsive nerve stimulation** — *Seattle, WA*

Clinical Neurophysiology — *2018*

Jennifer J. Haagensen, Stephanie Chen, Jennifer L. Hopp, **Adam Li**, Sridevi Sarma

## Invited Talks

**Robust Causal Discovery** — *Baltimore, MD*

Johns Hopkins Neurodata Lab - Lab Meeting — *08/26/2022*

**Adam Li**, A. Ribeiro, E. Bareinboim

**Neural Fragility as an EEG Marker of the Seizure Onset Zone** — *San Francisco, CA*

UCSF Epilepsy Center - Journal Club — *09/30/2021*

**Adam Li**, C. Huynh, Z. Fitzgerald, I. Cajigas, D. Brusko, J. Jagid, A. Claudio, A. Kanner, J. Hopp, S. Chen, J. Haagensen, E. Johnson, W. Anderson, N. Crone, S. Inati, K. Zaghloul, J. Bulacio, J. Gonzalez-Martinez, S. V. Sarma

## Leadership and Volunteer Work

**Google Summer of Code - Mentor** — *2022 — Present | Worldwide*

Mentor new developers in contributing to open-source software.

**EverydayBME - Co-Founder** — *2019 — Present | Worldwide*

Design and aggregate digital storybooks of Biomedical science (researchers, students, etc.) over the world.

Worked with BMESDiversity and Whitaker Foundation to highlight under-represented groups in STEM.

**AAMPLIFY 501(C) - Director of Leadership** *2017 — Present | San Francisco, CA*

Planned and implement a summer leadership and advocacy program for under-served AAPI youth. Also involved in raising over $5000 as a non profit organization.

**Engineering & Medicine Exchange - Co-Founder** *2016 — 2017 | JHU*

Plan events for collaborations between engineering, medicine and public health. Arduino workshop, Machine Learning in Healthcare workshop, and Electronic Health Records for Engineering workshop.

**Yale School of Management Pre-MBA Program - Global Pre-MBA Leadership Program** *2014 | Yale*

Placed 3rd in Audubon Business Concept Pitch Plan, and 2nd in Audience Choice Award.

**BME PhD Council - Social Chair** *2016 — 2017 | JHU*

Coordinate and plan events for increasing collaboration within department.

**Alpha Kappa Psi - Class President** *2012 — 2014 | UCSD*

Led class of 16 individuals.

## Mentoring

**Anil Palepu - Spectral analysis of scalp EEG data** *Neuromedical Control Systems Lab*

Undergrad - now MIT PhD *2015-2017*

**Chester Huynh - Automating iEEG electrode localization and manifold trees** *Neuromedical Control Systems Lab*

Undergrad - now Microsoft Software Engineering *2018-2021*

**Patrick Myers - Software development of EZTrack and scalp EEG analysis** *Neurologic Solutions*

MS student and Director of Product Development - now PhD at JHU *2019-2022*

**Sophia Zhai - Morphology of high frequency oscillations** *Neuromedical Control Systems Lab*

Undergrad *2019-2022*

**Jordan Drew - Estimating source-space time-varying linear dynamical system** *Google Summer of Code*

PhD Student at University of Washington *2022*

**Aaron Youn - Automating independent component analysis** *Neuromedical Control Systems Lab*

High School Student *2022 - Present*

**Ikshita Sathanur - Blood cell correlates to COVID-19 symptoms** *Polygence*

High School Student at Eastlake High School *2022*

**Jong Shin - Decision trees and open source software** *Neurodata Lab*

Research Assistant at Johns Hopkins University *2021 - Present*

**Jacob Feitelberg - Deep neural networks for automatic noise labeling in EEG** *Neuromedical Control Systems Laboratory*

Research Assistant at Johns Hopkins University *2020 - 2022*

## Skills

**Programming** Bash, Python, MATLAB, Scikit-learn, Pandas, Numpy, Keras, Pytorch, Cython

**Misc.** Open-source, Git, Software Design and Engineering, Software Quality Control, Software Testing