

Christopher Wang

405-818-7839 | czw@mit.edu | czlwang.com

EDUCATION

Massachusetts Institute of Technology

Cambridge, MA

Master of Engineering in Electrical Engineering and Computer Science - GPA 5.0/5.0

June 2019 – Sep. 2020

- Thesis: Weakly Supervised Semantic Parsing for Linear Temporal Logic

Massachusetts Institute of Technology

Cambridge, MA

Bachelor of Science, majors in Computer Science and Math - GPA 4.9/5.0

Sep. 2015 – June 2019

PUBLICATIONS

* = EQUAL CONTRIBUTION

- [1] **Christopher Wang***, Adam Yaari*, Aaditya Singh, Dana Rosenfarb, Jan DeWitt, Pranav Misra, Joseph Madsen, Scellig Stone, Gabriel Kreiman, Boris Katz, Ignacio Cases, and Andrei Barbu. “Brain Treebank: Large-scale intracranial recordings from naturalistic language stimuli”. In: *Advances in Neural Information Processing Systems Datasets and Benchmarks (NeurIPS)*. 2024.
- [2] David Mayo*, **Christopher Wang***, Asa Harbin*, Abdulrahman Alabdulkareem, Albert Shaw, Boris Katz, and Andrei Barbu. “BrainBits: How Much of the Brain are Generative Reconstruction Methods Using?” In: *Advances in Neural Information Processing Systems (NeurIPS)*. 2024.
- [3] Vighnesh Subramaniam, Colin Conwell, **Christopher Wang**, Gabriel Kreiman, Boris Katz, Ignacio Cases, and Andrei Barbu. “Revealing Vision-Language Integration in the Brain with Multimodal Networks”. In: *International Conference on Machine Learning (ICML)*. 2024.
- [4] **Christopher Wang**, Vighnesh Subramaniam, Adam Uri Yaari, Gabriel Kreiman, Boris Katz, Ignacio Cases, and Andrei Barbu. “BrainBERT: Self-supervised representation learning for intracranial recordings”. In: *International Conference on Learning Representations (ICLR)*. 2023.
- [5] **Christopher Wang**, Candace Ross, Yen-Ling Kuo, Boris Katz, and Andrei Barbu. “Learning a natural-language to LTL executable semantic parser for grounded robotics”. In: *Conference on Robotic Learning (CoRL)*. 2020.
- [6] Andrei Barbu, David Mayo, Julian Alverio, William Luo, **Christopher Wang**, Dan Gutfreund, Josh Tenenbaum, and Boris Katz. “ObjectNet: A large-scale bias-controlled dataset for pushing the limits of object recognition models”. In: *Advances in Neural Information Processing Systems (NeurIPS)*. 2019.

EXPERIENCE

Graduate Research Assistant

Jan. 2019 – Present

InfoLab at MIT CSAIL. Professor Boris Katz

Cambridge, MA

- Supervised undergraduate and masters research projects on neural dataset annotation, neural decoding, and grounded language models
- Organized and taught section for *The Science of Intelligence* course with Professor Tommy Poggio
- Along with collaborators, created the Brain TreeBank, a dataset of 43 hours of intracranial recordings, aligned to transcripts of movie stimuli at the millisecond level.
- Developed self-supervised representation learning approaches for multi-channel intracranial neural data
- Built a neural semantic parser to generate Linear Temporal Logic formulas from natural language and explored effects and benefits of weak-supervision during training [5]
- Co-organized the ObjectNet challenge, in which teams competed to build better systems for object recognition
- Worked collaboratively on ObjectNet: A challenging test-set to push the performance of object detectors [6]
 - * Helped collect a 50k image test-set with bias-control for background, rotation, and viewpoint
- Compiled a dataset of paraphrases in order to improve the natural language capabilities of START, a QA system.

Undergraduate Researcher

June-Sep. 2018

Computational Fabrication Group at MIT CSAIL. Dr. Adriana Schulz

Cambridge, MA

- Modified a C++ program for inverse design so that it could be run on a variety of domains
- Created a test suite to demonstrate the program’s capabilities to end users

Research and Development Intern

June-Aug. 2017

VMware

Palo Alto, CA

- Developed a web front-end to visualize compute-cluster performance data
- Worked closely with end users to determine the most effective tools for troubleshooting performance issues

Web Development Intern

Jan. 2017

Brain Power

Cambridge, MA

- Added various features to the product's website such as email verification and QR code generation. Integrated the website with the company's google glass application

Undergraduate Researcher

June-Aug. 2016

Institute for Data, Systems, and Society. Dr. Sae-Yun Kwon

Cambridge, MA

- Created a comprehensive database of rice mercury levels and built interactive visualizations for public outreach

Independent Study

Oct. 2014 - May 2015

Oklahoma School of Science and Mathematics

Oklahoma City, OK

- Determined the efficiency of various multiprocessor scheduling algorithms.

Student Researcher

June - Aug. 2013

Research Science Institute. Professor Martin Rinard

Cambridge, MA

- Determined the accuracy which parallel algorithms could achieve when mutual exclusion conditions were relaxed

PROJECTS

6.148 Web Programming Competition

Jan. 2016

- Won 2nd place in the Rookie Division for "Graffiti", a web-app built with Meteor, MongoDB, and D3.js that allows users to post disappearing messages to an unstructured message board

Hack MIT

Sep. 2016

- Built "Clippd," a web-app which utilizes IBM Watson to automatically create cut and paste video supercuts

ACTIVITIES/AWARDS

Student at Brains, Minds & Machines Summer Course (hosted by CBMM)

Aug. 2022

Eta Kappa Nu Honor Society

2019

President Chao Nee Memorial Scholarship

2017

Business Manager: *The Tech* Student Newspaper

Sep. 2015 - Jan. 2019

- Handled budgeting, accounting, and payment, as well as corresponding with clients and managing advertising sales

SERVICE/TEACHING

Reviewer for ICLR 2022, 2023; NeurIPS 2021, 2022, 2024; ICML 2023

Teaching Assistant for *The Science of Intelligence*, taught by Professor Tommy Poggio at MIT

Fall 2024

Grader for Computer Systems Engineering

Feb. - June 2019

Tutor for Discrete Math

Sep. - Dec. 2018

TECHNICAL SKILLS

Programming: Java, Python, C/C++, Haskell, Julia

AI/ML: PyTorch, Keras, HuggingFace

Web: JavaScript, HTML/CSS, Angular, Node.js, MongoDB

Misc: LaTeX, bash, git