Ellen Su

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Education

New York University   New York, NY
Doctor of Philosophy in Cognitive Science   *Fall 2024*

Princeton University   Princeton, NJ
Bachelor of Science in Computer Science   *2019 - 2023*
- Certificates in Applied Math and Cognitive Science
- Thesis: *Revealing the Priors of Deep Learning Models Through Iterated Learning*

Research Experience

Broad Institute of MIT and Harvard   Cambridge, MA
ML Research Associate, PIs: Anne Carpenter, Shantanu Singh   *2023 - present*
- Using graph neural networks to approach drug target interaction (DTI) discovery
- Co-first author publication in NeurIPS (June 2024), second author publication in Nature Communications (March 2024)

Princeton University   Princeton, NJ
Senior Thesis, PI: Tom Griffiths   *2022 - 2023*
- Used convolutional neural networks (CNNs) as learning agents in an iterated learning chain to identify potential inductive biases in the models
- Observed how machine priors manifested in their sequential decision making behavior
- Presented results at the Program in Applied and Computational Mathematics Symposium

Computer Vision Final Project, PI: Olga Russakovsky   *Spring 2023*
- Trained CNN image classifiers with a soft contrastive objective function
- Used transfer learning with ResNet50 and created soft similarity scores from human-annotated soft labels in the CIFAR-10H dataset

Junior Paper, PI: Ben Raphael   *2021 - 2022*
- Contributed to a machine learning algorithm that predicts copy number variation mutations from spatial transcriptomics data
- Presented this work at the Princeton Summer Research Symposium

Fellowships and Awards

2023   Outstanding Student Teaching Award, Princeton Computer Science
2022   Grace Hopper Celebration Grant, Princeton Computer Science
2021   Undergraduate Research Summer Fellowship, Princeton University
2020   International Internship Program Research Grant, Princeton University

Teaching Experience

Princeton Tutoring   Princeton, NJ
Tutor   *2021 - present*
- Teaching math, physics, and computer science to middle and high school students

Princeton Computer Science   Princeton, NJ
COS495 Undergraduate Course Assistant   *Spring 2023*
- Assisted course staff, graded homework assignments, and answered student questions on course structure, assignments, and deliverables for Web3 and Blockchain course

Other Experience

Robust Intelligence   San Francisco, CA
Machine Learning Engineer Intern   *Summer 2024*
- Researched and implemented multilingual support for AI security firewalls

J.P. Morgan Chase & Co   Chicago, IL
AI & Data Science Analyst   *Summer 2022*
- Created a decision-making tool (with Python, SQL, Alteryx, and Tableau) for the email marketing team to optimize their campaigns
- Picked up manager's responsibilities during an unexpected transition of leadership and trained the incoming associate

Service

Princeton First Aid and Rescue Squad   Princeton, NJ
Emergency Medical Technician   *2021 - 2023*
- Served as a first responder to local 911 calls; stabilized patients, delivered medicine, and transported to the hospital
- Certified by National Registry of Emergency Medical Technicians (NREMT)

Engineers Without Borders   Princeton, NJ
Princeton Chapter President   *2019 - 2023*
- Coordinated 3 separate country teams, Princeton sponsoring departments, and EWB USA to ensure high quality chapter projects
- Served as project manager of the Peru team; oversaw a team of 100 students and NGO partners to design and implement a gravity-fed water system in Pusunchas, Peru

Skills and Languages

- Analytical: machine learning, deep learning, computational modeling
- Softwares: MS Office, Teradata, Alteryx, Tableau, AutoCAD
- Languages (programming): Python (Pytorch, Tensorflow, Sklearn), Java, C, R, Linux, SQL, JavaScript, CSS/HTML
- Languages: English (native), Mandarin (native), Spanish (advanced)
- Interests: reading, running, cooking, and crosswords