Andy Teh

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EDUCATION

University of California - Irvine **Sep 2023 – Dec 2026**
Bachelor's, Computer Science (Dean's Honor List 6 semesters) *GPA: 3.744*

- Relevant Coursework: Data Structure Implementation and Analysis, Graph Algorithms, Machine Learning and Data-Mining, Parallel and Distributed Computing

EXPERIENCE

Department of Genetics, Washington University School of Medicine — MultiSC **St. Louis, MO, USA**
Research Intern *Jan 2025 – Present*

- Developed and deployed a web application for researchers to visualize and compare gene expression in multiple single cell/nucleus datasets across different brain regions, disease conditions, and species.
- Features interactive graphs for real-time datasets exploration, load balancing to manage datasets across multiple daemons for parallelized plot generation, and Docker support for automated deployment.
- Coauthor for two research publications evaluating shared astrocyte states across neurodegenerative diseases and comparing neurons across animal models to reflect neurodegenerative disease pathways.

Olin Business School at Washington University in Saint Louis — TreeMLP **St. Louis, MO, USA**
Research Intern *Feb 2024 – Jun 2025*

- Developed a custom machine learning model that stacks decision tree outputs with a multilayer perceptron and a regression benchmark using OpenML-CTR23 to visualize and evaluate model performance and interpretability across datasets.
- Reduced bias in model evaluation using nested cross-validation to prevent overfitting during hyperparameter optimization.
- Uses Optuna Dashboard for visualizing optimization history and hyperparameter importance.

ICS Student Council at UC Irvine — ZotSpots | ics-centralized-calendar | corporate-dashboard **Irvine, CA, USA**
Full-Stack Developer *Jan 2024 – Jun 2025*

- Developed a web application for UCI students to find nearby unscheduled classrooms.
- Developed an API that aggregates and archives Google Calendars from ICS clubs.
- Developed a mail merge dashboard for ICSSC's Corporate Committee.

BDPA St. Louis Chapter — qOverflow | Ghostmeme | airports **St. Louis, MO, USA**
Student Software Developer *Mar 2019 – Aug 2022*

- Learned MERN full-stack web development and led St. Louis in BDPA's annual High School Coding Competition.
- Developed an online forum where members can ask and answer each other's questions, vote on answers, and self-moderate.
- Developed a messaging app where users can send and receive public and private messages.
- Developed a website for viewing and booking flights to and from a simulated local airport.

PROJECTS

Parallelized Hash Cracker Project — unhash *Jan 2025 – Present*

- Developed a hash cracker to recover an input string from a demo hash function.
- Used oneAPI for a standardized programming model and heterogeneous parallelism on CPUs and across GPU vendors.
- Uses approximate membership query filters for space-efficient searching of modular K-Sum solutions.

Machine Learning Projects — Diabetes | Minesweeper *Jan 2025 – Jun 2025*

- Compared classification models on their ability to predict readmission rates for diabetic patients in the Diabetes dataset.
- Developed a minesweeper solver to calculate primary safety using depth first search for an average solve time under 1 second.

SKILLS

Languages: Python, JavaScript, TypeScript, C/C++, R, Java, HTML/CSS
Technologies: Git, React.js, SvelteKit, MongoDB, Docker, AWS, PyTorch, Sklearn
Skills: Machine Learning, AI, Full-Stack Web Development, Solution Architecture

ACHIEVEMENTS

- 3-year 1st place BDPA National High School Coding Competition 2020–2022
- Gold Division USA Computing Olympiad 2022
- 1st place team California Informatics Competition 2022
- 4-year 1st place Missouri State Scholastic Chess Championship 2020–2023