Austin Yan

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EDUCATION

Purdue University   West Lafayette, IN
Bachelor of Science, Computer Science and Mathematics Double Major   Expected: May 2026
Honors: 4x Dean's List, 4x Semester Honors, National Merit Finalist   GPA: 3.93
Relevant Coursework: Analysis of Algorithms, Competitive Programming I, Computer Architecture, Data Mining and
Machine Learning, Data Structures and Algorithms, Discrete Mathematics, Information Systems, Linear Algebra II,
Object-Oriented Programming in Java, Probability, Programming in C, Systems Programming

EXPERIENCE

Professor Zhang Research Assistant (https://ruqizhang.github.io/)   West Lafayette, IN
Research Assistant   May 2024-Present
- Creating 2 novel AI algorithms that more quickly and efficiently get discrete samples by adding continuous space
  sampling to shortcut to an optimal discrete solution.
- Analyzing the algorithms through theoretical calculations and empirical tests using Ising models.

Lightning Wildfires Lab   West Lafayette, IN
Student Researcher   Feb 2023-Present
- Collaborating with a cross-functional team of 12 students to optimize ConvLSTM AI machine learning models
  using Python libraries (TensorFlow and Keras) to forecast wildfire locations from lightning strikes in California.
- Utilizing PyTorch to create a ConvLSTM model that analyzes geographic data on humidity and vegetation density
  to determine the likelihood of wildfire in particular regions. Current model has ~80% accuracy.

Applied Computing Foundation (https://www.applied-computing.org/about)   Palo Alto, CA
Instructor (Virtual)   Jul 2022-Present
- Mentoring 5 students weekly virtually on Java and Python to help students achieve mastery of topics up to
  USACO, Data Structures and Algorithms, and Object-Oriented Programming.
- Increasing motivation of students to learn computer science and pursue larger projects.

Purdue University Computer Architecture Teaching Assistant   West Lafayette, IN
Teaching Assistant   Jan 2024-May 2024
- Hosted labs and office hours for >200 students and created exam material to assist students in learning the course.

PROJECTS

Java Marketplace and Messaging System (github.com/Vmena9/CS180_Group_Project)   Oct 2022-Dec 2022
- Constructed a Java Swing GUI app with a team of 5 students to model a multithreaded e-commerce platform.
- Led the team in arranging meetings, assigning roles, setting deadlines, and solving issues within the team.
- Created the back-end messaging system to allow messaging, searching, editing, and more.
- Designed the account system to differentiate between customer and seller accounts to grant each type of account
  different permissions, such as allowing customers to buy products and sellers to list products in the marketplace.
- Resolved an issue of failed logins when users delete old accounts and create new accounts by certifying all
  information in the text file is non-null throughout modification of accounts.

Creating a Custom Shell   Feb 2024-Apr 2024
- Composed a shell interpreter mirroring bash using C++, Lex, and Yacc that handles user commands.
- Integrated file redirection, piping, subshells, environment variables, wildcards, control statements, and editing.
- Significantly reduced memory leaks to <1000 bytes when using the shell.
- Settled an issue of multiple wildcards in a command by implementing a recursive wildcard expansion function.

SKILLS

Languages: C, Java, Python, SQL, x86 Assembly
Technologies: GitHub, Keras, Linux, Matplotlib, NumPy, Os, Pandas, PyTorch, Scikit-Learn, Sys, TensorFlow