Anthony Zhai

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Education

Princeton University Princeton, NJ
B.A. in Mathematics + Computer Science September 2023 - May 2027
Relevant Coursework: Data Structures and Algorithms, Intro to Programming Systems, Intro to Theoretical Machine Learning, Reinforcement Learning, Probability and Stochastic Systems *GPA*: 3.8/4.0

Experience

Predigle
Software Engineer Intern May 2025 - Present

- Developing time series forecasting models using Meta's Robyn and statistical models to predict client revenue based on media spend, supporting budget optimization across campaigns launched in 5 countries.
- Designing a supply chain optimization system for coordinating truck and barge routes across rural Indonesia, enabling efficient coconut collection from smallholder farms.

Predigle
Software Engineer Intern May - Aug 2023, 2024

- Built and deployed ML models—including neural networks and random forests—for classifying insurance claim overpayments, achieving 97% accuracy on 400k+ data points and identifying $250k+ in new claims.
- Developed an end-to-end pipeline using OCR and LLMs to classify refund reasons in scanned insurance documents, unlocking 150k+ previously untapped data points for training.
- Created and deployed technographic segmentation software for 100k+ patients to identify digitally engaged cohorts and improve digital payment adoption.
- Prototyped and launched Predigle Quest, an Atlassian Forge app for agile project execution in Jira now deployed at an enterprise level across thousands of client users.

Princeton University Power Electronics Research Lab
Machine Learning Research Intern Jun - Aug 2022

- Developed a novel neural network to model magnetic core loss that uses the Fast Fourier Transform algorithm to more efficiently encode time-series data, using <20% the parameters of LSTM networks with <15% training time and equal performance.
- Created custom processing layers using PyTorch and Tensorflow APIs to streamline model usage and decrease training time by 10%.
- Analyzed downsampling methods for frequency and peak flux density to assess the relative significance of variables in predicting core loss and to reduce the parameter search space by 20%.

Projects

CGBNet: A Deep Learning Framework for Compost Classification *Python, Tensorflow, Keras, Computer Vision, Deep Learning, Transfer Learning*
Co-first authored research article for CGBNet—a deep learning framework using computer vision to classify nitrogen-rich and carbon-rich compost for automating composting—published in IEEE Access, an engineering application journal (3.9 impact factor and 30% acceptance rate).

Visionary *Python, Django, Django-Rest-Framework, Flutter, Dart, Tensorflow, Keras, NLP*
Developed the Visionary mobile app to help the visually impaired interact with the world—generates verbal narrations of the user's surroundings through a combination of text OCR, object detection, and cutting edge Natural Language Processing technology.

Skills

Programming Languages: Python, Java, C++, Javascript, Dart, HTML / CSS, SQL
Libraries: Tensorflow, PyTorch, Numpy, Pandas, Flutter, React, Node, Vue, Flask, Django, OpenCV
Technologies: Git, Bash, AWS, GCP, Docker, PostgreSQL, Firebase, Figma, NPM, UNIX

Awards

Most Innovative Startup Idea *HackPrinceton*
Created EduLecture.ai, a platform comprised of a voice-generative AI tool combined with a React.js frontend that bridges the accessibility gap for remote education.

Best Hardware Hack *PantherHacks*
Awarded Best Hardware Hack against over 350 competitors by creating Hygenie, a public safety system that uses computer vision and arduino to enforce proper hand-washing procedures.