Anthony Zhai

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Education

Princeton University Princeton, NJ
B.S.E in Computer Science, Minor in Applied Math GPA: 3.8/4.0
Activities: AI@Princeton, Princeton University Science Olympiad

Experience

Predigle
Software Engineer Intern May 2024 - Aug 2024
- Developed productionalized software for client to perform patient segmentation. Uses technographic data-driven models to identify cohorts in client's customer base for increasing digital payment adoption.
- Developed models to classify insurance claim overpayments for increasing client revenue, and packaged software for Predigle's future platform end-users.
- Created end-to-end pipeline for automatic classification of refund reason for unlabeled scanned insurance documents, using Optical Character Recognition (OCR) and machine learning. Increased dataset size by 150,000+ data points for insurance claim overpayment model training.
- Performed containerization of software using Docker, AWS, and GCP to deploy Predigle's software solutions in client environments.

Predigle
Software Engineer Intern May 2023 - Aug 2023
- Created first prototype of Predigle Quest, a Project Delivery Accelerator app developed using Atlassian Forge that allows teams to perform project initiation and agile execution in Jira. Originally developed for billion+ dollar evaluated client and later monetized as an official Predigle software product.
- Developed mobile app to allow users to interact with 3-D avatar for increasing engagement with physical therapy exercises through gamification process.

Princeton University
Machine Learning Research Intern Jun 2022 - Aug 2022
- Developed machine learning models to model power magnetic core loss using PyTorch, Tensorflow, Pandas, and Numpy.
- Used the Fast Fourier Transform algorithm to develop a novel neural network for time series forecasting, utilizing <20% parameters than LSTM networks with <15% training time and equal performance.
- Analyzed data down sampling 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*
CGBNet is a framework for classifying compost to help automate composting. Co-first authored research article for CGBNet that was published in IEEE Access (3.9 impact factor and 30% acceptance rate).

Visionary *Python, Django, Django-Rest-Framework, Flutter, Dart, Tensorflow, Keras, NLP*
Visionary is an app that helps the visually impaired interact with the world through text OCR, object detection, and image captioning through Natural Language Processing and computer vision.

VirtualMouse *Python, OpenCV, Mediapipe, PyAutoGUI*
VirtualMouse is a program that uses computer vision and machine learning to process real-time hand movements for controlling a computer GUI.

Skills

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

Awards

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

Overall 2nd Place *HealthHacks (PennApps x Wharton Undergraduate Healthcare Club)*
Created Retro, an application that provides easy access to critical information for first responders in emergency situations and decentralizes the storage of medical records.