

ANTHONY ZHAI

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EDUCATION

Princeton University

B.S.E in Computer Science, Minor in Applied Math

Activities: AI@Princeton, Princeton Entrepreneurship Club

Princeton, NJ

GPA: 3.9/4.0

EXPERIENCE

EsperCare

Software Engineer

Jun 2023 - Present

- Developed mobile app to allow users to interact with 3-D avatar for increasing engagement with physical therapy exercises through gamification process.
- Created the Project Delivery Accelerator using Atlassian Forge, an extension for Jira and Confluence teams to outline project specifications and benchmark progress. Served on the Jira marketplace to thousands of companies.
- Served clients worth billions of dollars, creating software for use by thousands of employees.

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%.
- One of less than 40 participants selected nationwide to participate in the Laboratory Learning Program.

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. Developed novel computer vision techniques and curated compost dataset to classify between nitrogen-rich and carbon-rich compost. Co-first authored research article for CGBNet that was published in IEEE Access (3.9 impact factor).

Visionary *Python, Django, Django-Rest-Framework, Flutter, Dart, Tensorflow, Keras, NLP*

Visionary is an app that helps the visually impaired interact with the world. Users can take a photo and Visionary can extract and narrate text using text OCR, or can use object detection to identify objects in the image and Natural Language Processing to produce a description of the image.

ConnectAnon *Flutter, Firebase, Figma, Cloud Firestore*

Connect Anonymous is a project to help teenagers connect with others from the same high school through anonymous chatting and texting. Developed the UI using Figma, configured the backend using Firebase, and coded the mobile app using Flutter.

VirtualMouse *Python, OpenCV, Mediapipe, PyAutoGUI*

VirtualMouse is a program that interprets hand gestures for controlling a computer GUI. Uses computer vision and machine learning to process real-time hand movements for detecting hand gestures that allow contactless interaction with a computer.

SKILLS

Programming Languages: Python, Java, C++, Javascript, Dart, HTML / CSS

Libraries: Tensorflow, PyTorch, Flutter, React, Node, Flask, Numpy, Pandas, Django, OpenCV, Mediapipe

Technologies: Git, Bash, Github, Firebase, Figma, Docker, 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.

May 2022

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.

Mar 2022