

AMANDA PIYAPANEE

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Education

California Institute of Technology (Caltech)

3.7/4.0 GPA

Bachelor's of Computer Science, Machine Learning Sequence

Graduating June 2023

Courses: Machine Learning Research (**Python**), Algorithms (**C**), Software Design (**C**), Computing Systems (**C**), Data Structures (**Java**)

Work Experiences

Software Engineering Intern

June 2022 - Sept 2022

Meta (formerly Facebook) - AI Content Understanding Team - AI Infrastructure

- Compressed ML image embeddings in the cache in **C++** by 40%. Developed rollout plan to ensure backwards compatibility. Optimized distributed system architecture through applying systems engineering principles
- Helped productionize a transformer model that I found to be 16% more robust through my analysis of benchmarking state-of-the-art multimodal machine learning models in **Python** (PyTorch) with debugging tool PDB

Software Engineering Intern

June 2021 - Sept 2021

Salesforce - Enterprise API Team - CORE

- Productionized new software architecture with relational databases to optimize processing of large volumes (GBs) of data in Bulk API 2.0 (REST API) in **Java** and **SQL**
- Worked with a complex legacy codebase, wrote thorough unit & functional tests, pair programmed remotely with an engineering mentor, and used Agile for weekly updates

Data Science Research Fellow

June 2020 - Aug 2020

Caltech - Wagenaar Lab

- Created data visualizations, developed ML models, and cleaned data in **Python** and **SQL** in contribution to a database the computational model of a nervous system (Semi-finalist in Caltech's annual research presentation competition)

Machine Learning Ethics Researcher

March 2021 - Aug 2021

Caltech - Supervised by Claire Ralph and Hillary Mushkin

- Helped develop a high-level framework for machine learning engineers to account for personal bias through speculative algorithm design in student research team

Projects

Various ML Projects: Experienced developing with Tensorflow, PyTorch, keras, Scikit-learn libraries in **Python** for CNNs, DNNs, RNNs, Markov Chains, SVD, GANs, Deep Learning, Bootstrap, LSTM, Multimodal Models, NLP

Malloc: Reimplemented dynamic memory allocation in **C** (malloc, calloc, realloc) with debugging tool GDB

Pinball (General Physics Simulator): Developed Pinball in **C** by building an end-to-end physics simulator with a team

Leadership

President (Techreach)

Sept 2020 - Current

Co-taught a course discussing current modern computing issues in society. Interviewed Google AI Senior Research Scientist Emily Denton. Organized and hosted zine-making workshop. Exploring the societal impacts of technology through workshops, community discussions, and partnerships with local orgs and nonprofits

President (Datamatch @ Caltech)

Dec 2020 - Jan 2022

Founded, promoted, troubleshoot, and organized a virtual matchmaking platform for Caltech undergrads to meet undergrads at Caltech and UCLA. Achieved participation rate of over 50% of Caltech undergraduate students in 1st year of release

Director (Fair Bytes - AI Education nonprofit)

March 2021 - April 2022

Managed interview series with professionals in AI. Helped advance AI ethics education through online content

Skills

Programming

C, Python, Java, C++, SQL, MATLAB, OCaml, Kotlin, Swift

Tools

Git, Linux, Jupyter Notebook, Vim, Agile, Figma, Adobe Suite, Mathematica, LaTeX