Andrew Nakamoto

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Education

University of Washington — Seattle, WA

Masters and Bachelors of Science in Computer Science; Minor in Mathematics — *Sep. 2022 – Jun. 2026*

GPA: 4.00 - Dean's List

- CSE 446: Machine Learning, CSE 447: Natural Language Processing, and CSE 333: Systems Programming.
- CSE 332: Data Structures and Parallelism and CSE 421: Algorithms.
- MATH 318: Advanced Linear Algebra Tools and Applications and CSE 312: Foundations of Computing II.

Experience

Meta

Software Engineer Intern — *June 2024 – Present*

Implementing configurable functionality to use the latest preference optimization methods (DPO, SimPO, CPO, ORPO, etc.) for LLM alignment in Meta's popular open-source fairseq2 toolkit using Python and PyTorch.
Writing internal FAIR tooling in Python and C++ for local instruction-following task evaluation.
Researching the impact of PO loss variations and PEFT on LLM reasoning, alignment, and memory.
Working within Meta FAIR (Fundamental AI Research) in a role usually reserved for PhD students.

DubHacks

Executive Director — *February 2023 – Present*

Leading and managing a team of 20 designers and software engineers and overseeing a $70k+ annual budget.
Implementing and project managing our tech stack using SQL, React, Kubernetes, Docker, and Google suite APIs.
Designing, building, and delivering front end and full stack solutions that deploy to thousands of users.
Directing the 2024 event for over 1000 projected participants and industry professionals.
Overseeing DubHacks Next, our startup incubator and entrepreneurship program.

UW Allen School Mobile Intelligence Lab

Research Assistant — *January 2024 – Present*

Researching optimization techniques for machine learning using Python, Swift, PyTorch, and Onnx with Prof. Shyam Gollakota in the Mobile Intelligence Lab for noise-cancelling applications.
Building an application in Objective-C for iOS by optimizing and integrating a system of neural nets that identify characteristic speech traits from target voices in noisy environments and cancel non-target noise in binaural audio.

UW Allen School SAC

Officer — *November 2022 – Present*

Building faculty-student relationships on the Faculty Interfacing team with data science and student surveys.
Working as a software engineer on a technical project to update the Tribute Wall for the Allen School.

Projects

WikiViz: Wrote an application that visualizes Wikipedia topics as an interactive graph using a depth-first recursive word-prevalence PageRank algorithm. Used Java, JSoup, and JUNG. Demo video on GitHub.

Webserver Search Engine: Built a complete webserver using C and C++ that serves a webpage interface, accepts client search requests, finds relevant documents and webpages in its index, then serves a response over the internet. Wrote a tool to scan files into the server index. Used C, C++, HTTP, TCP/IP, POSIX, Unix/Linux, and DNS protocols.

Sci-Fact LLM: Experimented with several large language model strategies for the OpenBookQA benchmark. Built and fine-tuned a RAG fact-retrieval model that achieved near-human 85% accuracy on the dataset despite limited compute. Used Python, PyTorch, Google Colab, and HuggingFace. Summary paper available on GitHub.

Skills & Passions

Languages & Tools: Java, Python, C/C++, Swift, HTML/CSS, TypeScript, JavaScript, React, Node.js, PyTorch, HuggingFace, Git, TCP/ICP, Linux/Unix.

Passions: Machine learning, data science, linear algebra, multivariable and vector calculus, NLP, system design.

Hobbies: Camping/hiking, outdoor conservation, nonprofit management and community engagement, guitar. I love travelling, eating, and organizing big events. Ask me about my favorite tarp shelters!