

William Francis Arnold

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Education

Korea Advanced Institute of Science and Technology (KAIST)

MS, Kim Jaechul School of AI, MLILAB under Professor Eunho Yang
Research on LLM Inference & Training Efficiency

September 2023 – Current

University of California, Berkeley

BS, Electrical Engineering and Computer Science Major, Math Minor
Graduate Coursework in High Performance Computing, Theoretical Physics

August 2017 – May 2021

Highest Honors

University Medal Nominee

Experience

Google

Student Researcher, Gemini Applied Research

- Developed a method for statistically efficient measurement of math/coding LLM benchmarks, pending preprint

April 2024 – Current

San Francisco, CA

Polygon Labs

Senior Engineer, Applied Research

- Developed an efficient multiproof commitment scheme with linear scaling, increasing the throughput of existing systems by 16x.

November 2022 – August 2023

San Francisco, CA

Eluvio

Software Engineer

- Built a distributed key management system in Intel SGX/AMD MET securing \$100M+ worth of Fortune 500 company media assets.

Summer 2020, October 2021 – November 2022

Berkeley, CA

UC Berkeley

Undergraduate Student Instructor & Machine Learning Researcher

- Conducted research in Prof. Costas Spanos lab on Reinforcement Learning for intelligent control of energy systems in large buildings, leading to a 3 week energy usage experiment at the National University of Singapore.
- Taught discreet math and probability theory (CS70), receiving 4.97/5.0 on student evaluations (above the department mean of 4.4/5).
- Held over 200 office hours, proctored, wrote questions for, and graded 12 exams.

August 2018 – May 2021

Berkeley, CA

Procore Technologies

Machine Learning Intern

- Built a image tagging interface using image embedding models and Gaussian clustering accelerate manual tagging of domain-specific latent classes in a construction image dataset, resulting in a 8x larger and more comprehensive dataset, increasing image tagging accuracy by up to 40% on challenging classes (eg. pipe vs conduit).

June 2019 – August 2019

Santa Barbara, CA

Activate Inc., at Google

Technical Lead

- Implemented a geospatial, unsupervised machine learning algorithm to identify the most attractive food concepts around 50+ locations in San Francisco for a Fortune 500 company.
- Built statistical models to predict how Google employees move and eat in on-campus cafeterias to reduce food waste.

February 2016 – August 2018

San Francisco, CA

Skydeck Berkeley

Data Analyst and Ambassador

July 2016 – July 2018

Berkeley, CA

Gradescope

Android Developer

September 2014 – July 2016

Berkeley, CA

Publications

- Factored Agents: Decoupling In-Context Learning and Memorization for Robust Tool Use. In review at *COLM 2025*.
- Back-to-Basics Revisited: Benchmarking an Expanded Set of RLHF Algorithms. In *NeurIPS SFLLM 2024*.
- Continuous Convolutional Neural Networks for Disruption Prediction in Nuclear Fusion Plasmas. In *NeurIPS CCAI 2023* (1st author).
- Adapting Surprise Minimizing Reinforcement Learning Techniques for Transactive Control. In *Proceedings of the Twelfth ACM International Conference on Future Energy Systems 2021* (1st author).
- Pricing in Prosumer Aggregations using Reinforcement Learning. In *Proceedings of the Twelfth ACM International Conference on Future Energy Systems 2021*.

Activities

Cal Sailing Team – Varsity Skipper and Fleetmaster

August 2018 – May 2021