

## EDUCATION

- **Stanford University**

*B.S. Computer Science (Systems) + Applied Math, M.S. Computer Science (AI) — GPA 4.1 / 4.0*

Palo Alto, CA

Sep. 2023 – May 2027

## EXPERIENCE

- **Kumo AI (Forbes AI 50)**

*Machine Learning Engineering Intern*

Mountain View, CA

June 2025 – Present

- **Edge Materialization Reuse:** Designed and productionized a cache-aware edge-materialization strategy that **reuses previously materialized join graphs and persisted table indexes**; shipped with a custom Spark profiler and delivered a **15%** end-to-end latency reduction in both training and large-scale batch inference.
- **ML Inference Pipeline Optimization:** Eliminated shuffle and I/O bottlenecks across **Spark, Databricks, and Snowpark** pipelines, increasing throughput and **lowering p95 latency** for relational feature inference at enterprise scale.
- **Relational Graph Transformers (RGT):** Contributed to the research, implementation, and benchmarking of Relational Graph Transformers that model complex multi-table schemas as heterogeneous graphs for SoTA predictive performance.

- **Fileread AI**

New York, NY

*Software Engineering Intern*

Jan. 2023 – Oct. 2024

- **Token-to-Source Attribution Layer:** Architected and deployed a token-level provenance engine that maps LLaMA outputs back to original legal text; fused **PyTorch** embedding similarity with span-aware alignment to surface citations and confidence scores, driving **\$1.2M** in ARR and reducing hallucination risk for Am Law clients.
- **CI/CD Acceleration:** Refactored multi-stage **Docker** builds, introduced aggressive layer caching, and pruned legacy images, cutting CI pipelines by **45%**, accelerating developer feedback loops.

- **Stanford Artificial Intelligence Laboratory (SAIL)**

Stanford, CA

*Machine Learning Researcher*

Sep. 2023 – Present

- **Polarization Whitepaper:** Analyzed real-time changes in political polarization using **ML entailment analysis**, found **37%** reduction in polarization. Presented at **The Linux Foundation** AI Research Conference. Established relationship w/ Fileread AI.
- **Relational Databases:** Currently researching applications of Graph Neural Networks to Relational Databases w/ Dr. Jure Leskovec

## COURSEWORK

- **Systems:** OS design, threading, scheduling, VM, I/O, file systems, memory allocators, interrupts
- **Cloud Computing:** AI/ML pipelines, VMs, Docker, networking, IaC, CI/CD, monitoring, cloud security
- **Databases & Big Data:** Hadoop, Spark, MapReduce, LSH, recommender systems, indexing, concurrency, fault tolerance
- **Data Structures:** Sorting, recursion, graphs, tries, hashtables, priority queues, complexity analysis

## GROUPS AND ACTIVITIES

- **Google Nephio:** Contributing to **Google/LF** open source Cloud-native automation project.
- **Stanford TreeHacks Organizer:** Raised **\$32K** in sponsorships and led workshops for the Stanford's hackathon
- **Stanford Competitive Programming:** Compete in **Codeforces** and **CTF** competitions
- **Robotics Team President:** Led team to world championships, secured **\$8.5K** funding from Board of Ed.
- **Code 4 Tomorrow President:** Led org teaching coding to **3300+** students in **15+** countries, hosted events with UN affiliates.

## ACHIEVEMENTS

- **U.S. National Chemistry Olympiad:** High Honors (**Top 150** in US)
- **Princeton University Science Olympiad Gold:** 1st Place
- **CS145 Speed Gold:** Fastest parallel join engine out of **300+** students in Stanford's CS145 (Database Systems)
- **Eagle Scout:** Boy Scouts of America Troop 90

## PROJECTS

- **ARM Bare-Metal OS:** Built a **bare-metal operating system** for ARM instruction set, implementing core OS fundamentals (**virtual memory, interrupt handling, device drivers**) in C and ARM assembly, using **hardware datasheets** and **architecture manuals** as references.
- **TikTok Feature Extractor:** CV2 OCR app to extract features/metadata from TikTok videos for research using **PyTesseract**, **IMUUtils**, **Trio**, and **Selenium Webdriver**. Tested with **85%** accuracy on COVID TikToks.
- **COVID Mask Detector App:** **Android Studio** mobile app with live-camera **mask classifier** using locally-running **PyTorch** model ported via ONNX. Integrated into COVID solution at South Brunswick HS.
- **HomeKit Integration Server:** Lightweight **Node.js** server integrating **Apple HomeKit** for non-compatible devices

## SKILLS

- **Programming Languages:** Python, Java, C/C++, Go, SQL, R, JavaScript/TypeScript
- **Frameworks/Tools:** Spark/PySpark, PyTorch, React, Node.js, Docker, FastAPI, TensorFlow, Selenium
- **Cloud & Infra:** AWS, Azure, GCP, CI/CD, Postgres, Git, HomeKit, Android Studio