Sophia Sharif

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Education

UCLA Los Angeles, CA

BS in Computer Science. 3.97 GPA. *June 2025*

Core CS Coursework: Operating Systems, Programming Languages, Data Structures & Algorithms, Computer Architecture, Digital System Design, Software Construction Lab, Discrete Math, Physics Series

Machine Learning Coursework: Machine Learning, Neural Networks and Deep Learning (Graduate), Deep Learning 2 (Graduate), Linear Algebra (Honors), Multivariable Calculus (Honors), Probability, Differential Equations

Experience

Software Engineer Intern at Palantir (with return offer) June 2024 - August 2024

- **Control Panel Redesign (Frontend)**: Built cross-platform Settings page in TypeScript and React to view and favorite extensions, implemented favoriting with optimistic updates, redesigned home page, and updated components like the enrollment/organization card, resource cards, save/cancel page wrapper, and entity list.
- **Favorites API (Backend)**: Designed and implemented an API for favoriting extensions using Java, gaining experience with concepts like unit testing, interfaces, schemas, tables, stores, and transaction management.
- **Gradle Update (DevOps)**: Proactively updated Gradle scripts and documentation to streamline PR preview processes and enable frictionless access to a commonly used dev stack, improving productivity of the entire team.
- **Hack week project (self-initiated)**: Addressed challenges to secure Palantir sponsorship of LA Hacks: optimized Foundry for hackathons, coordinated UCLA alumni, and engaged CTO to overcome budget constraints.

Technology Team Director at LA Hacks May 2024 – Present

- **Created recruitment/mailing site:** check it out at lahacks.com!
- **Optimizing Docker Deployment:** Implementing Docker image deployment with Docker buildX and registry for cross-compatibility and automated CI/CD with GitHub Actions to ensure efficient and consistent workflows.
- **Improving Resource Management:** Establishing protocols for regular Docker cache clearing to manage server disk space effectively, preventing Postgres and Redis database write failures and optimizing resource usage.
- **Enhancing Security and Network Configuration:** Integrating Tailscale for secure server access by binding admin ports to Tailscale IP addresses and and configuring Traefik to filter traffic by source IP.
- **Web Development:** Built websites used by 3000+ annually using TypeScript, React, Express.js, and SCSS.

Projects

EEG Data Classification | *Python, PyTorch, TensorFlow, NumPy* | Github, Report March 2024

- **Tested performance of various architectures** including CNNs (58.6% accuracy), RNNs (46.3%), Transformers (56%), CNN+RNN (75.84%) for classifying EEG data into four classes of imagined actions.
- **Achieved** 75.84% **testing accuracy** with CNN+RNN architecture and used hyperparameter tuning and techniques like subsampling, average pooling, max pooling, and mean signal subtraction to optimize performance.
- **Analyzed temporal data intervals**, finding optimal model accuracy with $300 - 850$ data points ($1.2 - 3.4$ seconds) and identifying performance peaks with 400-800 time bins (1.6-3.2 seconds).
- **Evaluated individual patient standard deviation** (7.5%), to understand robustness across different subjects.

Random Byte Generator | *C, Make, Shell, x86-64* | Github May 2023

- Utilized inline assembly (asm) with CPUID for capability checks and leveraged RDRAND for hardware RNG.
- Manually managed memory, optimized output mechanisms, debugged with valgrind, make & AddressSanitizer.
- Developed CLI with input flag to specify hardware/software/file seed and output flag for stdio or block-wise write.

Achievements

HackMIT Winner (Created automated wildfire mitigation tool that won the Sustainability Track and 3 sponsor challenges out of 210 submitted projects. Link to demo.) September 2024

UCLA Regents Scholarship Nominee (One of 220 out of 150,000 applicants invited to compete.) March 2022

Faculty Departmental Award for Mathematics (Top math student out of class of 570) February 2022

American Mathematics Competition, 1st Place (out of 1000+ juniors and seniors) January 2021

USA Beach Volleyball National Team Member (#1 Player in Northern California) 2020