Mihir Vador

(614) 208-8510 | mvador@umich.edu | vador.dev | linkedin.com/in/mihirvador | github.com/mihirvador

EDUCATION

University of Michigan — May 2026
Bachelor of Engineering in Computer Science and Pure Mathematics. Minor in Electrical Engineering — *GPA 3.8/4.0*
Courses: Distributed Systems, OS, Networking, ML, DSA, Computer Architecture, CV, Probability Theory, Real Analysis

EXPERIENCE

Palantir - *Software Engineering Intern* — May 2025 – Present
- Worked on Palantir's Cloud Infrastructure team, managing critical resources across AWS, Azure, GCP, and on-prem environments to ensure feature and security parity across deployments. Worked in Go, Terraform, and Kubernetes.
- Designed and implemented secure, cross-cloud bucket access for external services, enabling data sharing for 35+ enterprise and government clients. Standardized access controls with IAM policies, bucket policies, and permission boundaries, improving reliability across cloud environments.
- Reduced misconfigurations and improved auditability by developing and refactoring policy frameworks entirely through infrastructure-as-code, enforcing least-privilege access in complex, multi-tenant deployments.
- Led integration of Apache Iceberg into Palantir's infrastructure stack, focusing on catalog compatibility and access control layers. This enabled onboarding of 30 new clients in 4 weeks, contributing to multi-million dollar revenue growth.
- Developed infrastructure support for managing externally created cloud buckets, eliminating reliance on AWS egress and enabling internal pipelines to access data directly—reducing access latency by 30% and improving system performance at scale.

Apple - *Software Engineering Intern* — January 2025 – May 2025
- Worked on Apple's compute infrastructure; Used as the backbone for Machine Learning and Build Systems Infrastructure.
- Managed a fleet of 50,000 macOS VMs, processing 5 PB of data and generating 10 TB of artifacts daily, while collaborating with CoreOS and Virtualization teams to maintain performance and stability at scale.
- Led system bring-up on new hardware, coordinating with 20+ engineers to ensure correctness, performance, and security across the stack. Redesigned the deployment architecture, reducing rollout times by 85% (p10–p999).
- Built a distributed tracing system in Swift, increasing system visibility by 45%, uncovering critical OS and virtualization regressions, and enabling a 28% performance boost in distributed compute workloads.

Aerovironment - *Software Engineering Intern* — June 2024 – August 2024
- Led full-stack integration of Skydio X2D drones into Kinesis platform, designing a robust, multi-threaded system across C++, Java, Kotlin, and JNI, improving system reliability by 30% and efficiency by 25%. Also built performance-critical firmware for drones from AeroVironment, Parrot, Red Cat, and Boston Dynamics, boosting overall stability by 20%.
- Accelerated video streaming performance by optimizing network protocols and GStreamer pipelines, cutting latency by 40% and improving video quality by 50%. Developed and deployed YOLO-based computer vision models to enhance real-time object detection on embedded systems.

Automotive Research Center - *Machine Learning Research Assistant* — January 2024 – Present
- Conducted research with the U.S. Army on efficient training pipelines by developing a Tucker-based video compression method (200× compression, 50% faster training) and prototyping diffusion models for behavior cloning to predict human-like actions in simulation.

Origami Risk - *Software Engineering Intern* — May 2023 – August 2023

PROJECTS

Diagnosing Multiple Sclerosis | Python, Tensorflow, SciPy, Cuda
- Designed a CNN for 3D MRI brain scan analysis, resulting in 85% accurate diagnoses across a range of disease progressions.

Robotic Guitar | C, Arduino, Embedded Systems, LLMs, Music Generation
- Built a robotic guitar using Arduino-powered actuators and embedded C for precise control of string plucking and fretting, and integrated an LLM-based music generation system to create playable guitar covers from any input song.

Thread Library | C++, Multi-Threading, Mutexes, Conditional Variables, Semaphores, Unix
- Built a kernel-level C++ thread library in Unix with support for 80+ CPUs, handling thread management, context switching, interrupts, and FIFO scheduling, along with mutexes, spin-locks, and condition variables for synchronization.

Multithreaded Network Fileserver | C++ , Boost Library, Threads, Sockets
- Built a crash-consistent, multithreaded network fileserver supporting multiple users and nested directories, using committing writes, Boost threads, reader-writer locks, and POSIX sockets.

TECHNICAL SKILLS

Languages: C/C++, Swift, Go, Java, Kotlin, Python, SQL (Postgres), JavaScript/TypeScript, ARM Assembly, React.JS
Libraries: PostgreSQL, MySQL, TensorFlow, PyTorch, Node.JS, Tailwind
Developer Tools: Git, Docker, AWS, Linux/Unix, Google Cloud Platform, Visual Studio, PyCharm, Eclipse