

Aditya Jain

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EDUCATION

University of California, Irvine

Bachelor of Science in Computer Science, Specializing in Intelligent Systems | Dean's List

Expected June 2027

Irvine, CA

EXPERIENCE

Thales Avionics

Software Engineer Intern

June 2026 – September 2026

Irvine, CA

- Developed a Python ILP algorithm to identify reusable In-Flight Entertainment parts, reducing manual audit time by ~40%
- Processed 10TB of aircraft BITE data with Databricks and PySpark to support fleet-wide predictive maintenance at scale
- Designed PySpark feature pipelines with Delta Lake and Databricks Feature Store to prepare aircraft data for ML workloads
- Built 4 interactive Databricks dashboards used by 15+ airlines to surface maintenance insights and repair recommendations

Radiology Imaging Laboratory

Machine Learning Researcher

November 2025 – June 2026

Irvine, CA

- Implemented iterative CT reconstruction algorithms to reduce Gaussian noise, improving overall image quality by ~20%
- Applied CNN models using PyTorch and OpenCV to CT scans to detect coronary artery disease and identify calcification
- Accelerated CT reconstruction with GPU computing using an in-house CT simulator for faster medical image processing

Swif AI | Security Platform

Returning Software Engineer Intern

September 2025 – December 2025

Los Angeles, CA

- Engineered Go services with MDM and REST APIs, cutting security policy deployment time by ~40% across company devices
- Built Redis-backed security dashboards with GraphQL APIs tracking compliance and endpoint risk for 1,000+ customers
- Implemented AI-assisted MDM workflows in Go for 15+ customers, automating security policy generation and deployment

Swif AI | Identity Platform

Software Engineer Intern

June 2025 – September 2025

Sunnyvale, CA

- Engineered Python AI agents with Playwright for automated app provisioning, increasing employee onboarding efficiency by 2×
- Developed Vue.js and GraphQL workflows for software installation and removal across employee onboarding and offboarding
- Designed self-correcting AI agents with fallback recovery, reducing manual intervention on failed provisioning by ~35%

CONTRIBUTIONS

Apple MLX | Open Source Contributor | 10+ Merged PRs

Merged PRs

- Fixed memory leaks, C++ crashes, and tensor correctness bugs across 5+ MLX areas including autograd, vmap, and einsum
- Expanded Apple MLX test coverage with NumPy-validated cases for gradients, batching, indexing, and tensor correctness

Amazon Web Services | Open Source Contributor | 20+ Merged PRs

Merged PRs

- Worked across AWS CDK and Deep Learning Containers on caching, asset publishing, CI pipelines, and security validation
- Improved CDK refactoring performance by 38% and fixed cross-account publishing bugs affecting multi-account deployments

LanceDB | Open Source Contributor | 3+ Merged PRs

Merged PRs

- Enhanced LanceDB's Python client across hybrid search, pagination, query validation, and merge-insert upsert workflows
- Fixed silent query correctness bugs involving ignored parameters and stale builder state, adding regression tests for each fix

PROJECTS

Graphify | Python, Tree-sitter, NetworkX, MCP

GitHub Repo

- Built a static analysis tool with Tree-sitter to map large codebases into searchable dependency graphs for AI assistants
- Reduced code sent to AI assistants by ~70% using NetworkX graph retrieval to find most relevant files and dependencies
- Designed an MCP server enabling AI assistants to retrieve relevant code, dependencies, and context directly from the graph

CacheFlow | Rust, CUDA C++, gRPC, Tokio, Protobuf

GitHub Repo

- Built a GPU KV-cache manager in Rust for LLM inference with paged allocation and prompt-prefix caching across requests
- Implemented LRU eviction and host-memory paging across 8 CUDA streams for efficient cache reuse under heavy concurrency
- Connected Rust to CUDA C++ kernels through FFI, reaching 11K block ops/sec at 91µs average latency under cache eviction

TECHNICAL SKILLS

Programming Languages/OS: Python, Java, Go, C++, SQL, TypeScript, JavaScript, C, Linux

Frameworks and Tools: PyTorch, FastAPI, Docker, Kubernetes, AWS, PostgreSQL, Redis, Kafka, Databricks, PySpark, gRPC, CUDA, NumPy, Pandas, REST APIs, Celery, Google Cloud, Node, MySQL, TensorFlow, Django, Git, React, LightGBM