

AKSHAT GUPTA

(858) 214-6056 • San Diego, CA • akshat.shubhra@gmail.com •  akshatmadrock.github.io •  linkedin.com/in/akshat-gupta-a500761

EDUCATION

M.S in Computer Engineering, University of California, San Diego (UCSD) Sept 2025 – Jun 2027

Coursework: Operating Systems, Modern Communication Networks, Computer Architecture, Random Processes, Cloud Infrastructure, Advanced Computer Networks

Incoming Apple SWE Intern, Cupertino (Summer 2026)

B.E in Electrical & Electronics Engineering, BITS Pilani, India Aug 2019 – May 2023

Coursework: Data Structures & Algorithms, Computer Programming, OOP, Digital Communications, Network Security CGPA: 8.39/10.00

SKILLS

Programming	C/C++, Golang, Python, Bash, SQL, Shell Scripting
Networking	TCP/IP, UDP, HTTP/HTTPS, Routing & Switching, VLANs, Wi-Fi 802.11ax/be, DHCP, NAT, Wireshark/tcpdump
Systems & OS	Linux Internals, Kernel Debugging, Device Drivers, Multi-threading
Backend & APIs	REST APIs, gRPC, JSON-RPC, Microservices Architecture
Tools & Platforms	MATLAB, Docker, Kubernetes, Jenkins, Git, AWS (EC2, S3), BusyBox
Other	CI/CD, Test Automation, Performance Profiling, Resource Optimization

EXPERIENCE

Software Engineer, Arista Networks Jul 2023 – Aug 2025
Pune, India

- Designed a **vendor-agnostic WLAN driver abstraction layer** in C/C++, enabling integration across multiple Wi-Fi chipsets and reducing vendor-specific code by **60%**. Improved platform portability and maintainability.
- Developed a **secure, high-availability logging pipeline** using **TLS, SHA256**, and TPM-backed certificates; added automated validation and fault-tolerant delivery for distributed systems.
- Built a **Jenkins-driven CI/CD ecosystem** with automated build gating, log parsing, and device health monitoring; improved code stability by **50%** and regression pass rates by **35%**.
- Optimized embedded Linux performance through kernel debugging, multi-threaded I/O, and profiling to reduce latency.

Intern – Associate Consultant, Indus Insights (UK Insurance Client) Jan 2023 – Jun 2023
Gurgaon, India

- Built and optimized high-volume **AWS Datalake pipelines** processing terabytes of data; reduced query latency by **40%** via indexing, partitioning, and schema optimization.
- Created backend workflows in Python, SQL, and R to merge **20+ years** of historical data; automated cleaning, transformation, and validation. Developed Tableau dashboards for client-facing risk analysis.

PROJECTS

RecoverAI – AI-Powered Recovery & Wellness App (Apple Swift Student Challenge) Feb 2025
An **iOS app** in **SwiftUI + SwiftData** tracking physical recovery and mental health with dual **LLM backends** (Llama 3.3 70B, Gemini 2.0 Flash) for personalized coaching. Features a custom **Canvas-based anatomical heatmap** with per-region hit-testing and full **VoiceOver accessibility**.

CSI + FTM-based Indoor Localization (WCSNG, UCSD) Sept 2025 – Present
Research at the **Center for Wireless Communications (Qualcomm Institute)** fusing **CSI** and **Fine Time Measurement (FTM)** for indoor Wi-Fi localization. Developed timestamp alignment modules.

OFDM Physical Layer Implementation (ECE 257A) Oct 2025
Built a complete **IEEE 802.11a OFDM transceiver** in MATLAB covering modulation, IFFT/FFT, cyclic prefixing, channel modeling, synchronization, estimation, equalization, and BER computation.

ML in Environmental Forecasting Aug 2024 – Nov 2024
Co-authored a review of **ML models** (regression, ensemble, deep learning) for spatiotemporal forecasting. Analyzed R^2 , RMSE, MAE, and F1 trade-offs across temporal scales.

CERTIFICATIONS AND AWARDS

Cisco Certified Network Associate (CCNA) Oct 2025
Validated networking skills in routing, switching, IP services, automation, and security.

CleanIT Hackathon Winner – Arista Networks Apr 2024
Built a Python-based testbed cleanup and anomaly detection pipeline, cutting infrastructure load by **45%** and increasing regression capacity by **30%**.