



AKSHAT GUPTA

+1 (858) 214-6056 • San Diego, CA • akshat.shubhra@gmail.com •  akshatmadrock.github.io
 linkedin.com/in/akshat-gupta-a500761a7

EDUCATION

M.S in Computer Engineering, University of California, San Diego (UCSD)	Sept 2025 – Jun 2027
Relevant Coursework: Operating Systems, Modern Communication Networks, Computer Architecture, Random Processes, Cloud Infrastructure, Advanced Computer Networks	
Availability: Summer 2026 internships (Jun–Sept 2026)	
B.E in Electrical & Electronics Engineering, BITS Pilani, India	Aug 2019 – May 2023
Relevant Coursework: Data Structures & Algorithms, Computer Programming, Object Oriented Programming, 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, Packet Analysis (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 <i>Pune, India</i>	Jul 2023 – Aug 2025
<ul style="list-style-type: none">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 tools to reduce latency.	
Intern – Associate Consultant , Indus Insights (UK Insurance Client) <i>Gurgaon, India</i>	Jan 2023 – Jun 2023
<ul style="list-style-type: none">Built and optimized high-volume AWS Datalake pipelines to process 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 processes.Developed Tableau dashboards and Excel reports for client-facing risk analysis.	

PROJECTS

CSI + FTM-based Indoor Localization (WCSNG, UCSD)	Sept 2025 – Present
Research at the Center for Wireless Communications (Qualcomm Institute) on fusing Channel State Information (CSI) and Fine Time Measurement (FTM) for indoor localization using Wi-Fi. Developed timestamp alignment modules.	
OFDM Physical Layer Implementation (ECE 257A)	Oct 2025
Built a complete IEEE 802.11a OFDM transceiver in MATLAB — modulation, IFFT/FFT mapping, cyclic prefixing, channel modeling, packet detection, synchronization, channel 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 large-scale spatiotemporal forecasting. Analyzed R² , RMSE, MAE, and F1 trade-offs and interpretability across temporal scales.	
UAV Base Station Positioning Algorithms	Apr 2023 – Aug 2023
Implemented and evaluated UAV positioning algorithms in C++/Python for coverage optimization and disaster response.	

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% .	