Akshaya Ajith

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Security Clearance: Secret (Pending Adjudication, expected Oct 2025)

Education

Johns Hopkins University **Expected May 2027**
B.S. Computer Science GPA: 3.9 *Baltimore, MD*

Relevant Coursework

- Machine Learning
- Computer Systems Fundamentals
- Security & Privacy in Computing
- Data Structures
- Intermediate Programming in C/C++
- Discrete Mathematics
- Linear Algebra
- Calculus III

Experience

Skydda.ai **Jul 2025 – Sept 2025**
Software Engineering Intern *Remote*

- Designed and implemented a **Model Context Protocol (MCP) Server** in Python utilizing object-oriented programming, and integrated **RESTful API endpoints**
- Built software modules for automated alerts querying via LLMs, improving testing and debugging efficiency by 80–90%.
- Optimized reusable modules with **efficient algorithms, data structures, and scalable design**, enhancing code maintainability & testing efficiency.
- Deployed scalable services on **AWS** and used **Docker** containers to prototype systems.
- Collaborated in an **Agile** team with code reviews, **Git-based version control**, and pair programming to develop agentic AI based cybersecurity solutions.

Entropy for Energy (S4E) Lab, Johns Hopkins **Oct 2023 – Present**
Applied AI & Data Science Undergraduate Researcher *Baltimore, MD*

- Awarded **IDIES Summer Fellowship** for AI-driven discovery of high-entropy fuel cell catalysts.
- Developed and optimized **ML models** (Random Forest, GNNs) in scikit-learn & PyTorch, improving predictive accuracy by 30% and reducing MAE by 85%.
- Engineered Python/C++ **ETL pipelines** for large datasets (JSON), performing **data preprocessing and feature engineering**, cutting manual workload by 40% and supporting reproducible data workflows.
- Designed robust **validation and debugging processes** to ensure data integrity across complex experiments.
- Visualized complex datasets (matplotlib, seaborn) to communicate results to technical and non-technical audiences.

Department of Computer Science, Johns Hopkins **Aug 2025 – Present**
Course Assistant, Computer Systems Fundamentals *Baltimore, MD*

- Supported 100+ students in debugging and optimizing **C/C++/assembly code** in **gdb and valgrind**.
- Designed and refined programming projects on **memory, processes, and performance**.
- Mentored students in object-oriented programming and best coding practices

Projects

Network Anomaly Detector | Python, C++, scikit-learn, pandas, NumPy, Wireshark, Linux

- Built a modular **network anomaly detection system** for **cybersecurity threat detection**.
- Captured and parsed real-time traffic with **Wireshark** on Linux, extracting protocol features for ML analysis.
- Applied **Isolation Forest and supervised ML models**, improving detection accuracy 35%.
- Integrated feature engineering, validation, and verification workflows for **secure, reliable system performance**.
- Developed **debugging and visualization dashboards** to accelerate anomaly triage and system integration testing.

Baja SAE Telemetry & Control System | C, C++, Python, Embedded Systems, Linux

- Designed and implemented an **embedded telemetry/control system** for real-time monitoring of engine.
- Developed **data acquisition and analysis tools** in Python/C++ to support performance debugging.
- Integrated hardware/software subsystems, emphasizing **real-time performance, and system debugging**.

Technical Skills

Languages: Java, Python, C, C++, GoLang, Bash
Web Tools: JavaScript, ReactJS, HTML/CSS, RESTful APIs
Cloud & Tools: AWS, Docker, Git, Linux, Wireshark, STRIDE Threat Modeling, Microsoft Office, Google Workspace
AI & Data Tools: SQL, ETL Pipelines, PyTorch, scikit-learn, Pandas, NumPy, Jupyter, matplotlib, seaborn