Akshaya Ajith

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

Education

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

Relevant Coursework

- Machine Learning
- Computer Systems Fundamentals
- Physics I & II
- Intermediate Programming in C/C++
- Electronic Properties
- Structures of Materials
- Linear Algebra
- Calculus III

Experience

Entropy for Energy (S4E) Lab, Johns Hopkins **Oct 2023 – Present**
Undergraduate Researcher *Baltimore, MD*

- Awarded **IDIES Summer Fellowship** for AI-driven accelerated discovery of high-entropy alloys.
- Developed and optimized ML models (**Random Forest**, **GNNs**) in **scikit-learn and PyTorch** for large-scale scientific simulations, improving predictive accuracy by 30% and reducing MAE by 85%.
- Engineered **ETL data pipelines in Python/C++** to process simulation datasets (VASP outputs), incorporating **data preprocessing and feature extraction** for scientific computing, cutting manual workload by 40%.
- Visualized complex datasets using Python (**matplotlib, seaborn**) to communicate results effectively to technical and non-technical audiences.

Skydda.ai **Jul 2025 – Sept 2025**
AI & Data Engineering Intern *Seattle, WA*

- Designed and implemented an agentic framework via **Model Context Protocol (MCP) Server**, enabling automated data workflows.
- Enabled engineers to query system data via LLM, eliminating manual API calls and reducing testing time by 80–90%, improving workflow efficiency.
- Deployed scalable services on **AWS & Docker**, supporting high-volume queries.
- Contributed in an agile, cross-functional team through design discussions, code reviews, and pair programming.

JJ Innovative Materials **Jan 2025 – May 2025**
Materials Development Intern *Baltimore, MD*

- Developed material prototypes for organic substitutes of drywall and concrete.
- Utilized **X-ray Diffraction (XRD)**, **Scanning Electron Microscopy (SEM)**, **ATR-FTIR** to analyze material structure and composition.
- Conducted tensile testing to improve prototype strength and durability by up to 20%.
- Utilized Excel to document material properties & conduct data analysis on crystallization.
- Contributed in a cross-functional team through design discussions and poster presentations.

Projects

Design, Build, Fly (DBF) | Onshape, Simulink

- Modeled aerodynamic performance of fixed-wing aircraft in **Simulink** to evaluate lift/drag tradeoffs.
- Designed and simulated flaps & aileron mounts in **Onshape**, improving aircraft control surface performance.

Hopkins Student Wind Energy Team – Siting Team | Python, Furow, GIS, ArcGIS, seaborn

- Automated **GIS workflows** (Furow, ArcGIS) to improve siting decisions with data-driven analysis.
- Created visualizations with seaborn to communicate results effectively to both technical and non-technical stakeholders.

Technical Skills

Languages: Java, Python, C, C++, Go, Bash, MATLAB
AI & Data Tools: SQL, ETL Pipelines, PyTorch, scikit-learn, Pandas, NumPy, Jupyter, Matplotlib, Seaborn
Materials Engineering Tools: X-Ray Diffraction, Optical Microscopy, Scanning Electron Microscopy, Mounting, Etching, Polishing, Onshape, SolidWorks
Productivity: Microsoft Office, Google Workspace