

Mustaeen Ahmed

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EDUCATION

University of Central Florida

Bachelor of Science in Computer Science

Orlando, FL

Aug 2023 - May 2027

EXPERIENCE

Quantitative Software Engineer Intern

Morgan Stanley

June 2025 - August 2025

New York, NY

- Migrated a C++ quant. trading app to the web, reducing loading speeds by **50%**, and integrated **Grafana**.
- Developed **Python** pipelines for risk management, improving report quality by **45%** by integrating market data.
- Implemented an interpreter for **Intex Deal Modeling Language**, improving deal processing speeds by **200%**.

Software Engineer

March 2025 - October 2025

Ideaflow, Inc

Palo Alto, CA

- Developed a **graph-based**, ML-powered note-taking application, which allows for AI-powered connection of ideas.
- Optimized a **semantic linking** implementation, improving precision by **25%**, and reducing latency by **35%**.
- Engineered **machine learning** solutions for analyzing and clustering notes, achieving **85%** cluster purity and reducing manual grouping by **40%**.

Software Engineer Intern

January 2025 - March 2025

U.S. Department of Transportation

Washington, D.C.

- Developed and deployed a scalable web application with **AWS CDK (Cloud Dev. Kit)** and **TypeScript**.
- Reduced backend response time by **54%** by leveraging **RESTful APIs** with **Amazon API Gateway**.
- Improved communications efficiency by crafting solutions to handle **B2B Data Interchange** with **Amazon S3**.
- Developed a vessel tracking interface with **AWS Lambda** and **DynamoDB**, improving port scheduling operations by **28%**, and port throughput by **44%**.

Software Engineer Intern

September 2024 - May 2025

Leidos

Orlando, FL

- Researched solutions for advancing the field of **spatial intelligence**, focusing on generating complex relationships between visual data and language by leveraging **LLMs**, **Q-Formers**, and **Hugging Face Transformers**.
- Fine-tuned **machine learning** models for **vision-language pre-training**, increasing model efficiency by **37%**.
- Constructed **data scraping** tools with **Python**, automating data collection and increasing productivity by **20%**.

Software Engineer Intern

June 2024 - November 2024

Darden

Orlando, FL

- Engineered several **Python** applications for automation, saving **400+** work hours and **\$10000+** per quarter.
- Leveraged **machine learning** powered packages such as **OpenCV**, **scikit-image**, and **PyTesseract** for use in robust error handling, decreasing errors by **94%**, and increasing application efficiency by **49%**.
- Performed efficient **data engineering**, reducing code complexity by **63%**, and application runtime by **26%**.

PROJECTS

Knight Hacks Monorepo | Next.js, React, TypeScript, SQLite, Tailwind CSS, tRPC, Drizzle ORM

- Implemented a multi-purpose Discord bot with **25+** useful commands to serve a club chat with **4000+** members.
- Architected a website for club registration with **React**, serving **2000+** students and **20+** company sponsors.
- Facilitated development of new tooling architecture, increasing **DX** by **80%** and developer efficiency by **90%**.

AgentNow | Next.js, React, TypeScript, Google Cloud, Python, FastAPI, Eleven Labs, RAG, Machine Learning

- **2nd place winner** of ServiceNow's **Agentic AI** challenge at Knight Hacks 2025, surpassing **20+** competitors.
- Deployed a **retrieval-augmented generation** API with **Google Cloud**, reducing enterprise costs by **80%**.
- Built a tool to assist enterprise clients with product selection, consultants with sales, and sales analytics.

GuitAR | C#, C++, Unity, Meta SDK, Algorithms, Audio Classification

- **2nd place winner** of the "Best Overall" category at Knight Hacks 2024, surpassing **102** submitted projects.
- Developed a highly-interactive, educational mixed reality application for learning and practicing the guitar.
- Designed an **audio classification** algorithm which converts audio frequencies to binary data for note validation.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, R, C, C++, C#, Java, Go, HTML, CSS, PowerShell, Bash, GLSL, SQL

Frameworks: React, Angular, Spring Boot, Next.js, Astro, Node.js, Express.js, Tailwind CSS, tRPC, Bootstrap

Libraries: scikit-learn, PyTorch, TensorFlow, Keras, NumPy, Pandas, Matplotlib, Flask, Django, OpenCV

Tools: Git, Jira, AWS, Microsoft Azure, Prisma, Redis, Docker, MongoDB, Jupyter Notebook, Linux

Concepts: Machine Learning, Full-Stack Development, Computer Vision, Cloud Computing, DevOps, Agile/Scrum, Frontend, Backend, Data Science, Software Engineering