Mustaeen Ahmed

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EDUCATION

University of Central Florida

Orlando, FL

Bachelor of Science in Computer Science

Aug 2023 - May 2027

Experience

Software Engineer Intern

March 2025 - Present

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, reducing note retrieval time by 35%, and precision by 25%.
- Engineered **machine learning** solutions for analyzing and clustering notes, achieving **85**% cluster purity and reducing manual grouping by **40**%.

Quantitative Software Engineer Intern

June 2025 - Aug 2025

Morgan Stanley

New York, NY

- Migrated a C++ quant. trading app to the web, improving UX by 99%, and reducing loading speeds by 50%.
- Developed **Python** scripts 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 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 **1500+** students and **10+** company sponsors.
- Facilitated development of new tooling architecture, increasing **DX** by 80% and developer efficiency by 90%.

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.

Naavis | Next.js, React, TypeScript, PostgreSQL, Prisma, Redis, Amazon Web Services, tRPC, Tailwind CSS, Jest

- Developed a location sharing web application which allows users to track locations of group members and devices.
- Implemented authentication with **TypeScript** and **AWS Cognito**, allowing third-party and regular sign-in.
- Used Amazon S3, tRPC, and RESTful APIs for assets, reducing query speed by 53%, and latency by 87%.

Technical Skills

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