

# Mustaen Ahmed

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## EDUCATION

### University of Central Florida

Bachelor of Science in Computer Science

Orlando, FL

Aug 2023 - May 2026

## EXPERIENCE

### Software Engineer Intern

September 2024 - Present

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 **35%**.
- Developed **data scraping** tools with **Python**, automating data collection and increasing productivity by **20%**.
- Engineered data through cleaning and preparation for efficient model training, reducing data errors by **15%**.

### Software Engineer

July 2024 - Present

KnightHacks

Orlando, FL

- Developed a multi-purpose Discord bot with several useful commands to serve a club chat with **3500+** members.
- Wrote an algorithm which validated event data for announcements, increasing club event attendance by **40%**.
- Engineered 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%**.

### Software Engineer Intern

June 2024 - Nov 2024

Darden

Orlando, FL

- Engineered several **Python** applications for automation, saving **400+** work hours and **\$10000+** per quarter.
- Leveraged several **machine learning** powered packages such as **OpenCV**, **scikit-image**, and **PyTesseract** for use in robust error handling, decreasing errors by **95%**, and increasing application efficiency by **45%**.
- Performed efficient **data engineering**, reducing code complexity by **50%**, and application runtime by **20%**.
- Developed a **Java** desktop application for streamlined application usage, improving **UX** and portability by **100%**.

### Software Engineer Intern

Aug 2022 - Aug 2023

Orange County Public Schools

Orlando, FL

- Engineered **PowerShell** applications for automation, optimizing technical support and saving **50+** work hours.
- Developed **Visual Basic** scripts for **Excel** task automation, saving **10+** hours of manual data collection.

### Software Engineer Intern

June 2022 - Aug 2022

Kelly

Orlando, FL

- Automated systems administration tasks with **PowerShell**, saving **100+** work hours and optimizing scalability.
- Identified bottlenecks in technical support processes through **data analysis**, reducing process time by **15%**.

## PROJECTS

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

- **2nd place winner** of the "Best Overall" category at Knight Hacks 2024, surpassing **100+** 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.
- Leveraged **C#** to develop songs/lessons and core application logic, and utilized **Unity** for 3D development.

### Insurify | Python, Next.js, React, TypeScript, PostgreSQL, Prisma, Tailwind CSS, Docker, Flask

- Built a multi-purpose insurance application which gives quotes based on a car's damage and customer data.
- Leveraged **Python** and **Hugging Face Transformers** to develop an image classification model for car damage.
- Developed a **machine learning** model for estimating insurance quotes based on the quantified car damage data.

### Naavis | Next.js, React, TypeScript, PostgreSQL, Prisma, Redis, Amazon S3, tRPC, Tailwind CSS, Vitest

- Developed a location sharing web application which allows users to track locations of group members and devices.
- Wrote an advanced authentication system with **TypeScript** and **Lucia**, allowing third-party and regular sign-in.
- Leveraged **Amazon S3** and **tRPC** queries to store assets, reducing query speeds by **50%**, and latency by **80%**.

## TECHNICAL SKILLS

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

**Frameworks:** React, 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, GitHub, GitLab, Jira, AWS, Microsoft Azure, Prisma, Redis, Docker, MongoDB, Jupyter Notebook, Linux

**Concepts:** Machine Learning, Full-Stack Development, Computer Vision, Cloud Computing, DevOps, Agile/Scrum