

# Murtuza Kagalwala

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<https://github.com/murtuzmk> | US citizen

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, SQL, TypeScript, JavaScript, HTML/CSS, R, bash

**Developer Tools:** AWS, LLM (OpenAI API), React, Node.js, Git, Docker, Github Actions, Jupyter Notebook, Fast API, REST API, UNIX, Snowflake, Microsoft Office, Docker

## PROFESSIONAL EXPERIENCE

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### AI/ML Engineering Intern

May 2024 – Present

*Calibre Systems*

*Alexandria, VA (Hybrid)*

- Achieved a 90% reduction in proposal completion time by developing an automated proposal generation system using Azure/Open AI (LLM), Python, AWS, Fast API, Scikit, and NLTK increasing operational efficiency & productivity.
- Understood government contracting process to automate proposal generation by parsing RFPs, classifying requirements, fine-tuning LLM to generate and validate human-like responses, ensuring high-quality responses.

### ML Ops - Model Preparation Intern

Aug. 2023 – Dec. 2023

*Stratolaunch*

*West Lafayette, IN*

- Optimize High-Speed Flight Data by developing Analysis of Alternatives, comparing multiple database to optimize multi-terabyte flight IoT data.
- Built benchmarking tool/dashboard to analyze Time-Series databases and calculating various IoT metrics. Optimized query performance using Apache Druid.

### ML Engineering Intern

Aug. 2022 – May 2023

*Renzoe Box*

*West Lafayette, IN*

- Optimized color correction algorithm precision to 95% using machine learning and Python for accurate skin tone and facial recognition.
- Tabulated data through web scraping using BeautifulSoup to analyze and improve product alignment with contemporary social trends.
- Composed a comprehensive report outlining recommendations for improving the machine learning model's accuracy, which included analyzing data and identifying key areas for improvement. Used Agile methodologies.

## PROJECTS

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### Theremin (Hackathon Winner): Awarded 2<sup>nd</sup> place out of over 70 projects.

- Built using Google's gesture recognition API (Media Pipe), TensorFlow, JavaScript, Magenta.js, Tone.js, Teoria.js
- Developed a responsive website that leverages machine learning to generate music based on hand gestures, incorporating principles of music theory.
- Real-time melodies generated by using a machine learning model called Piano Genie, based on the selected chord.
- Check it out: <https://boilertheremin.netlify.app/>

### Shift | TypeScript, React, Java, Spring Boot, REST API, Auth0, Github Actions

Jan 2024 – May 2024

- Acted as Scrum Master to build a full-stack website for Purdue University residences (to help RAs schedule shifts)
- Implementing CI/CD pipeline with GitHub Actions. Used Auth0 for Authentication. Built automated test-suite with Playwright. Used Docker Containers.

**Shell:** shell interpreter which combines behavior from common shells including bash and csh. Used Lax, Yacc & C++.

**Plantarchy:** Created an online IO game using HTML, CSS, JavaScript, Python, and Flask with real-time connection.

**Eat With Me:** A mobile app using React Native for people to socialize in dining courts. Used Figma for Designing.

## EDUCATION AND CERTIFICATIONS

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### Purdue University

West Lafayette, IN

*B.S in Computer Science (GPA: 3.3)*

*Dec 2025*

- Certifications:** Entrepreneurship & Innovation by Purdue University, Applications in Data Science by Purdue University, Elements of Artificial Intelligence by University of Helsinki, Responsive Web Design by FreeCodeCamp, Scientific Computing with Python by FreeCodeCamp. AWS Cloud Practitioner(Pursuing)
- Relevant courses:** Software Engineering, Data Structures and Algorithms, Sys Programming, Comp Architecture, OOP (Java), Discrete Math, C Programming