UMAR ABDUL AZIZ

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Education

University of Houston CL **Aug. 2023 – May 2025**
Master of Science in Computer Science *Houston, Texas GPA:3.95*

Technical Skills

Languages: Python, Java, C, C++, JavaScript, HTML/CSS, SQL
Developer Tools: VS Code, Linux, Postman, PgAdmin, MongoDB Atlas
Technologies/Frameworks: React, TailwindCSS, Node.js, Express.js, MongoDB, Numpy, Matplotlib, Pandas, Scikit Learn, Ollama, LangChain, AWS, GitHub, Webpack

Experience

Glappy Village **May 2024 — August 2024**
Software Engineer Intern
- Built a pioneering chatbot for supporting victims of domestic violence using Meta's Llama3 Large Language Model; Deployed in production, the chatbot provides empathetic support in multiple languages.
- Implemented RAG (Retrieval-Augmented Generation) to limit the LLM's knowledge base, preventing the chatbot from answering questions outside the context of supporting victims of domestic violence. This ensured a focused and accurate response to user inquiries.
- Developed a robust Flask Based REST API and deployed it on AWS Cloud infrastructure, ensuring high availability, performance, and scalability for users seeking assistance.

University of Houston CL **April 2024 — Current**
Research Assistant
- Conducted a thorough audit of existing code, eliminating redundant code and reorganizing code structure for improved readability and scalability
- Refactoring the existing codebase to React and implemented reusable components, reducing redunduncy by 45% and improving responsiveness by adding bootstrap CSS.
- Collaborated with program team members to create targeted campaigns, increasing brand awareness by 15% and driving traffic to the website

PHN Technology **April 2023 — June 2023**
Web Developer Intern
- Contributed to the development of a responsive Travel Agency platform using HTML, CSS, JavaScript, and React, with a focus on Desktop-first design. Implemented a custom carousel feature that improved user engagement by 25%. Worked closely with the product team to integrate the platform's API with payment gateways like Stripe.
- Collaborated with the full-stack development team to troubleshoot and debug code, and participated in daily stand-up meetings to discuss project progress and goals.

ZeroOne DataLab **May 2021 — May 2021**
AWS Admin Intern
- Acquired hands-on ability in AWS fundamentals, including provisioning scalable EC2 instances and leveraging S3 for resilient storage.
- Skill development extended to orchestrating load balancers, further enhancing ability in optimizing AWS performance and resource allocation

Projects

Plagiarism Detection Software | *Python, Beautiful Soup, Selenium, ExpressJs, ReactJs* **October 2023**
- Developed plagiarism detection software in Python, leveraging Google API and beautiful soup for web scraping.
- Implemented a modified Smith-Waterman algorithm, utilizing Damerau–Levenshtein distance for accurate percentage and provides users with exact web links where the potentially plagiarized calculation of plagiarized text.
- The Backend was implemented using Express.js and frontend with React. The scrapped articles were also stored in the Postgres database for cached retreival of the articles.

Leadership / Extracurricular

Global Medical and Educational Foundation **September 2022 – March 2023**
STUDENT VOLUNTEER
- As a proactive student volunteer at the impactful Global Medical and Education Foundation, I helped diverse humanitarian activities, including distributing vital medicines, providing sustenance with food and blankets, and directly witnessing the transformative impact on underprivileged communities.