Mustafa Arif

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EDUCATION

University of Michigan - Ann Arbor   Aug 2020 - Dec 2023
Bachelor of Science in Computer Science
GPA: 3.90

EXPERIENCE

Farida's Cake Boutique Website   Apr 2023 - Aug 2023
- Designed a frontend single page web application using React and Material Design Bootstrap library to create a modern UI with increased responsiveness
- Engineered a RESTful API backend leveraging Django to enable seamless data processing, robust user authentication, and enhanced security measures
- Leveraged Amazon's Relational Database to establish a scalable and multi-user-supported infrastructure, ensuring data integrity and robust data management for user information
- Employed Amazon's Route 53 service to assign a domain name to the website while rigorously enforcing end-to-end data encryption via HTTPS, guaranteeing data security
- Deployed on AWS Elastic Beanstalk using EC2 instances and load balancers for efficient user request handling and seamless preparation for future scalability requirements

PROJECTS

Electromyography Classifier Program   Jun 2022 - Present
- Collaborated with the University of Michigan's Neuroprosthetics team to design an interface translating electrical signals from a patient's residual limb into precise mechanical movements in a prosthetic arm
- Developed a Python-based machine learning program, employing scikit-learn, to interface with electromyography sensors achieving 95% accuracy, paving the way for seamless integration with future Python-native hardware solutions

Open Source Forum Backend   May 2023 - July 2023
- Developed an open-source forum backend RESTful API using Django, facilitating efficient data management and user interaction
- Implemented seamless user registration and authentication through Google Cloud services, enhancing user onboarding and security while adhering to industry best practices
- Integrated Amazon SES (Simple Email Service) to automate and streamline account update notifications, ensuring timely and reliable communication with forum members
- Employed industry-standard coding practices, version control, and documentation to promote the project's accessibility and future contributions from the developer community

Wikipedia Search Engine Clone   Mar 2023 - Apr 2023
- Created a robust pipeline for computing the TF-IDF scores for each word within a series of Wikipedia articles by using natural language processing and data analysis
- Crafted a RESTful API using Flask to proficiently manage search query requests, facilitating the seamless communication of document matches ranked by relevance to users
- Engineered a dynamic server-side website enabling clients to search through Wikipedia pages, which seamlessly interacts with a REST API to deliver relevant user document results.

Technologies and Languages

- C++, C, Java, Python, React, JavaScript, SQL, Shell/Bash script
- Git, AWS, React, Docker, Flask, Jinja, Django, ScikitLearn, Bootstrap, Linux, Amazon SES, Amazon RDS, Google Cloud, Firebase, npm, Vite,