

Mustafa Arif

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EDUCATION

University of Michigan - Ann Arbor

Bachelor of Science in Computer Science, Dec 2023

GPA: 3.90

EXPERIENCE

Farida's Cake Boutique Website

Apr 23 - Aug 23

- Designed a frontend single page web application using React and Material Design Bootstrap library to create a modern UI with increased responsiveness
- Developed a REST API backend using Django to communicate with frontend website and database with Amazon RDS for user authentication and data security
- Implemented an ordering interface that allows for users to place an order to the cake boutique and view progress on their order
- Created a gallery to display past pastry orders where customers can see finished products with a short description and like posts similar to a social media app
- Deployed to AWS Elastic Beanstalk for automatic scaling to support future web traffic growth

Computer Science Tutor | CSP at University of Michigan:

Sep 22

- Taught students high-level concepts in computer science ranging from data structures and algorithms to memory management
- Planned each session to individual student's needs by adapting to each student's learning style

PROJECTS

Electromyography Classifier Program

Jun 23

- Collaborated with the University of Michigan's Neuroprosthetics team to design an interface which translates electrical signals from a patient's residual limb to produce mechanical movements in a prosthetic arm with a 95% accuracy in Arduino
- Designed a machine learning program in Python with scikit-learn for an electromyography sensor in anticipation for future hardware that can run python natively

Wikipedia Search Engine Clone

Mar 23- Apr 23

- Developed a pipeline for calculating the tf-idf score for every word per document from a series of Wikipedia articles
- Designed a REST API in Flask to handle search query requests and communicate document matches in order of relevance to user
- Created a dynamic server-side website for clients to search through wikipedia pages that interacts with REST API to serve user document results

LC2K Pipeline Simulator

Oct 22 - Nov 22

- Developed a C program that simulates the LC2K ISA pipeline given instructions in machine code
- Simulated pipeline behavior through executing instructions in cycles and outputting live updates of the memory to the console whilst accounting for data and control hazards

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