USSAMA MUSTAFA

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ussarata.github.io/portfolio

Skills

Languages: Python, C/C++, JavaScript
Technologies: Django, Flask, React.js, Pytorch, Pandas, Numpy, Sympy, MySQL, Bash, Git

Professional Experience

OOP & ADT Teaching Assistant
College of Wooster – *Computational Sciences Department* **Fall 2022**
- Assisted in teaching data structures and algorithms to students and graded their work
- Helped students build programs applying object-oriented programming and abstract data types in C++

Software Engineering Intern
Goodyear Tire & Rubber Company – *Airless Tires Team* **Summer 2022**
- Built a comprehensive Python application to compute physical attributes of airless tires
- Improved accuracy of computations and accelerated the runtime by over 100%
- Implemented class object serialization, automatic generation of plots, and a Pytest suite

Website Developer
College of Wooster – *Computational Sciences Department* **Winter 2021**
- Created a course website using Django to help students keep track of assignments and lectures
- Received feedback from faculty to improve course content and student experience

Projects

Illustrated Story Generation **Feb 2023**
- Built a user interface linking text and art ML models to generate illustrated stories
- Used transfer learning on transformers to improve the performance of the models
- Created the backend using Django and Firebase, and the frontend using React.js and Gradio

Ramble – Full Stack **Oct 2022**
- Built a responsive open-source forum inspired by Twitter and Tumblr using React.js and CSS
- Implemented authentication, real-time databases and CRUD and UI principles

Pyo Melody Generation **July 2022**
- Built a melody generation software using Pyo and genetic algorithms
- Converted sounds to binary genome encodings to output melodies
- Implemented a recommendation system to generate melodies which cater to user preferences

Education

The College of Wooster Aug 2019 - May 2023
Bachelor of Computer Science & Mathematics
- **Departmental Honors**
- **Foster Prize in Mathematics**
- **Courses:** OOP in C++, Data Structures and Algorithms, OS, Software Engineering, Numerical Analysis, Machine Intelligence, Data Analysis