

# USSAMA MUSTAFA

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[ussarata.github.io/personal-portfolio](https://ussarata.github.io/personal-portfolio)

## Skills

**Languages:** Python, C/C++, JavaScript, Java

**Technologies & Skills:** React.js, Django, Flask, TensorFlow, Pandas, SQL, Git, SCRUM, Agile,

## 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 for precise computation of airless tire properties
- Improved readability, user experience, and runtime efficiency, achieving a 300% acceleration
- Implemented class object serialization, automatic plot generation, 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 an interface combining text and art ML models for the generation of illustrated storybooks
- Leveraged transfer learning with transformers to significantly enhance model performance
- Designed the backend with Django and Firebase, while building the frontend with Gradio

### Ramble – Full Stack

Oct 2022

- Developed an open-source forum, drawing inspiration from Twitter and Tumblr, using React.js
- Successfully integrated authentication, relational databases, CRUD functionality and UI principles
- Employed agile methodologies to prototype and iterate features, reducing development time by 20%

### Pyo Melody Generation

July 2022

- Implemented genetic algorithms for melody generation using Pyo
- Transformed audio into binary genome encodings to produce captivating melodies
- Engineered a personalized recommendation system for generating user-tailored melodies

## Education

The College of Wooster

Aug 2019 - May 2023

**Bachelor of Computer Science & Mathematics**

• **Departmental Honors / Foster Prize in Mathematics / Dean's List**

• **Courses:** OOP in C++, Data Structures and Algorithms, Operating Systems, Software Engineering, Numerical Analysis, Machine Intelligence, Data Analysis