

# USSAMA MUSTAFA

330-845-1033 | [ussamustafa21@gmail.com](mailto:ussamustafa21@gmail.com) | Richmond, VA  
<https://www.linkedin.com/in/ussama-mustafa-ba9238203/>  
<https://ussarata.github.io/personal-portfolio/>

## SKILLS

**LANGUAGES:** Python, JavaScript, Java, C/C++, Mathematica.

**SKILLS & TECHNOLOGIES:** React.js, Django, Flask, TensorFlow, Pandas, NumPy, SymPy, SQL, Git, SCRUM, Agile.

## PROFESSIONAL EXPERIENCE

### DATA ANALYSIS TEACHING ASSISTANT

Wooster, OH | 08/2022 – 12/2022

The College of Wooster

- Instructed SQL-based data analysis, delving into advanced statistical concepts like regression analysis.
- Crafted interactive workshops, cultivating students' adeptness in analysis, and enhancing their interpretation skills and technical skills with libraries such as Pandas.
- Drove the implementation of data-driven solutions by nurturing good habits and practices among students.

### SOFTWARE ENGINEERING INTERN

Akron, OH | 05/2022 – 07/2022

Goodyear Tire & Rubber

- Built a comprehensive Python application for precise computation of tire properties for the Airless Tires team.
- Engineered a high-complexity differential equation solver by converting an elaborate Mathematica script using SymPy and SciPy, while incorporating basin-hopping and gradient descent optimizations.
- Improved output readability, accuracy, and user experience, while accelerating the runtime by over 300%.
- Implemented class object serialization, automatic plot generation, and a user-friendly Pytest suite.

### WEB DEVELOPER

Wooster, OH | 12/2021 – 02/2022

The College of Wooster

- Designed and programmed an interactive Django course website to facilitate assignment tracking.
- Leveraged relational databases to ensure robust data handling and seamless user interaction.
- Earned commendations from faculty for optimizing the accessibility of course content and student experience.

## PROJECTS

### ILLUSTRATED STORYBOOK GENERATOR

- Built an interface combining text and art synthesis ML models for the generation of illustrated storybooks.
- Enhanced model performance by utilizing transfer learning techniques on transformers.
- Constructed the backend using Django and Firebase and the frontend using Gradio.
- Authored a 100+ page thesis paper covering the mathematics behind generative models as part of the project.

### RAMBLE – FULL STACK SOCIAL MEDIA APP

- 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 over 50%.

## EDUCATION

**THE COLLEGE OF WOOSTER – Bachelor of Computer Science and Mathematics**

2019 – 2023

**Prizes and Achievements:** Departmental Honors | Foster Prize in Mathematics | Dean's List

**Relevant courses:** Objected-oriented Programming in C++ | Data Structures and Algorithms | Operating Systems | Numerical Analysis | Software Engineering | Machine Learning | Data Analysis