USSAMA MUSTAFA

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SKILLS

PROGRAMMING LANGUAGES: Python, C/C++, JavaScript, TypeScript.
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.

Course Design Assistant 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 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, reducing bug reports by over 60%.
- 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: Object-oriented Programming in C++ | Data Structures and Algorithms | Operating Systems | Numerical Analysis | Software Engineering | Machine Learning | Data Analysis