Vasu Mittal

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Education

University of Maryland, College Park College Park, MD, USA
Bachelor of Science in Computer Science ***Expected Graduation: May 2025***
GPA: 3.82/4.0
Relevant Coursework: Data Science, HCI, Database Design, OOP, AI, Algorithms, Web Development, Computer Systems, Discrete Structures, Calculus, Linear Algebra, Probability & Statistics

Experience

Software Design Engineer Intern, *Newgen Software Technologies* May 2024 - Present
- (Incoming) Software Design Engineer Intern.

Undergraduate Researcher *(PI: Professor Fereshteh Shahoveisi)* May 2024 - Present
- Developing a predictive model for airborne diseases utilizing plantation types and local weather conditions.

Web Developer, *RAM* Apr 2024 - Present
- Redesigning the UMD Robotics Club website for the ROBOSUB competition, incorporating JavaScript frameworks and CSS libraries to elevate UI quality and ensure cross-platform compatibility.
- Updated and resolved issues pertaining to web linking, addition of new page components, and replacing content within the existing website to highlight recent accomplishments of the robotics club.

Teaching Assistant, *Department of Computer Science UMD* Jan 2023 - Present
- Led engaging group discussions for a class of 35 students on Programming Languages and Discrete Structures, covering mathematical concepts and proofs, as well as programming concepts in Ocaml, Python, and Rust.
- Clarified and debugged programming fundamentals for over 900 students during office hours.
- Wrote comprehensive project tests and built autograders using Bash shell scripts and Docker.
- Efficiently graded exams, created quizzes, and led review sessions to deepen understanding of course topics.

Undergraduate Research Assistant (FIRE Program), *UMD* Jan 2022 - Dec 2022
- Explored Quantum Error Correction (QEC) Algorithms within the Quantum ML cluster.
- Focused on factors affecting a quantum circuit and researched techniques to prevent qubit data loss in a circuit.
- Designed and presented a **poster** showcasing QEC research findings at the FIRE summit hosted by UMD.
- Researched the FIREWORKS event collision display at CERN and suggested functionality improvements as part of the Simulating Particle Detection cluster.Compiled research findings into a visually informative **poster**.

Projects

PlanetTerp Data & Sentiment Exploration | ***Python*** Mar 2024 - May 2024
- Analyzed data and engineered features for **26,000** entries in the PlanetTerp dataset using Python libraries such as NumPy, nltk, Pandas, and many more to understand the impact of GPA and student reviews on course selection.
- Achieved a **73%** accuracy in predicting student GPAs for courses taking into consideration factors like course level, star ratings from reviewers, and student sentiment scores calculated using the **SentimentIntensityAnalyzer**.

Movie Database Review System | ***Python, Flask, MongoDB, CSS*** Mar 2024
- Designed and developed a user-friendly movie review system integrated with the OMDb API, enabling users to securely create accounts, add personal reviews, and interact with community reviews for various movies.
- Leveraged MongoDB to manage user information and reviews efficiently and the Flask framework to handle tasks such as user authentication, data processing, and many more backend functionalities.

Technical Skills

Languages: Python, Java, JavaScript, C, HTML/CSS, Ocaml, Rust, MySQL
Frameworks: Twilio, React, Node, Express, Flask, MongoDB, NodeJS, Express, Tailwind CSS
Developer Tools: Eclipse, VS Code, Git, JUnit Testing, RStudio
Libraries: Qiskit, Matplotlib, Pandas, NumPy, SciPy, Scikit-learn, TensorFlow, nltk