Vaibhav Sonnakul

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LinkedIn | GitHub | Portfolio

Education:

George Mason University College of Engineering and Computing   **August 2025 – Expected June 2026**
Accelerated Master's in Computer Science with a Concentration in Machine Learning
George Mason University Honors College   **GPA: 3.8**   **August 2022 – Expected June 2025**
Bachelor's in Applied Computer Science with a Concentration in Software Engineering
Relevant Coursework: Software Engineering, Data Structures and Algorithms, Object Oriented Programming, Database Concepts
Governor's School at Innovation Park   **August 2020 - June 2022**
Accelerated Dual Enrollment STEM Program in collaboration with George Mason University

Technical Skills:

Languages: Python, Java, JavaScript, Typescript, Go, CSS, HTML, C, SQL, R
Design/Programming Concepts: Object Oriented Programming, Data Structures and Algorithms, Low Level Programming (Linux/Unix CLI), Agile, Docker, CI/CD, REST APIs
Tools/Frameworks: React, Next.js, Git/GitHub, MongoDB, Node.js, PostgreSQL, AWS, Visual Studio Code, Postman, Microsoft Office (Word, Excel, PowerPoint, Outlook, Teams), IntelliJ, Autodesk, RStudio

Experience:

Undergraduate Teaching Assistant   **August 2023 – Present**
- Facilitated the learning journey of over 400+ students enrolled in Introduction to Programming and Low-Level Programming courses by providing personalized support, clarifying programming fundamentals, and guiding Python and C implementation through lab and project assignments. Introduced students to Linux and terminal commands.
- Managed class discussion boards, addressing inquiries regarding course topics and logistics promptly, fostering an engaging learning environment for a large and diverse student body.

Cognizant: *Generative AI Externship* - Extern   **June 2024 – August 2024**
- Developed technical skills in Python for AI & Generative AI through a self-paced virtual program. Learning to create innovative AI-driven applications through foundational training in Python programming and introductions to Gen AI.
- Earned certificates in Python and Generative AI upon completion.
- Learned to use tools like PyTorch and Hugging Face to customize pre-trained models for specific use cases.

AT&T: *Technology Academy* - Extern   **July 2023 – August 2023**
- Gained experience with a variety of technologies, including cloud computing, big data, and cybersecurity.

Projects:

GMU Course Search & Scheduler (Source) | *Go, Next.js, MongoDB, Cloud Run, Docker*   **July 2024**
- Developed a scalable class search system for George Mason University (30,000+ students) enabling seamless course scheduling. Implemented a **MongoDB** database with efficient search queries for course & scheduling data management.
- Built a **RESTful API** backend using **Go** deployed on **Google Cloud Run**. Created a user-friendly frontend with Next.js deployed on Vercel. Automated continuous integration with **GitHub Actions** and **Docker** for efficient deployments.

PumpUp AI Exercise Tracker (Source) | *Next.js, OpenAI, MongoDB, Pinecone Vector DB*   **June 2024**
- Designed and implemented a responsive, user-centric interface for PumpUp, an innovative AI-powered workout tracker, using **Next.js** inspired by my first react project a **MERN** Stack Exercise Tracker.
- Developed robust APIs to manage exercise data and AI interactions and MongoDB for optimized data storage and scalability.
- Integrated Pinecone with the **OpenAI API** to deliver precise AI responses, including detailed exercise information, progress tracking, personalized feedback, and nutrition advice based on the user's workout routine and tracked exercises.

NBA PPG Prediction Model (Source) | *Next.js, Flask, Scikit-Learn*   **March 2024**
- Created a **prediction model** to predict a player's points per game (PPG) stat for the upcoming 2024-2025 season based on their PPG from the past 3 seasons (2022-2022, 2022-2023, 2023-2024).
- Used a **Linear Regression model** using **scikit-learn** to combine a player's data from all three seasons to help predict their PPG in the upcoming 2024-2025 season.
- Utilized **Flask** to connect backend model with a responsive Next.js frontend.

Next.js Weather App Project (Source) | *Next.js, React, Weather APIs*   **February 2024**
- Developed interactive Weather Application website using Next.js and Tailwind, ensuring a visually appealing user interface.
- Integrated Open Weather API and Open Meteo API to provide comprehensive and accurate weather information to users.
- Implemented server-side rendering (SSR) with Next.js for optimized performance and swift data delivery, deploying the application on Vercel for global accessibility and streamlined deployment management.