Siddhrajsinh Padhiyar

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Education

Mississippi State University, Starkville, MS   **May 2024**
Bachelor of Science (Honors) in Computer Engineering and Mathematics, 3.78/4.00 GPA

- Shackouls Honors College, Tau Beta Pi honor society, Colvard Future Leader Scholar, Old Main scholar
- Relevant coursework: Embedded systems, Data Structures, Algorithms, Operating Systems, Circuits, Digital Devices, Microprocessors, Data Communication and Networks, Computer Architecture
- Activities: International Student Advisory Board, Math Club, Cyber Security Club, Intramural Soccer, and MSU esports

Work Experience

Teaching Assistant   **Dec 2022 – Present**
Agricultural and Biological Engineering Dept., MSU – Starkville, MS

- Designed and developed a hands-on lab course that complemented the main curriculum and provided 50% more practical learning time, focusing on teaching programming principles to students without a Computer Science background
- Graded assignments, led practical lab sessions, and provided valuable guidance during office hours
- Collaborated in instructing a diverse class of over 90 college students, covering various aspects of computer science

Data Analytics Intern   **May 2023 – Aug 2023**
USDA Agricultural Research Service – Starkville, MS and Juana Diaz, PR

- Employed AI algorithms such as Ensemble Learning to extract pertinent information from diverse datasets, including sensor data, disease response records, phenological observations, and yield component data
- Developed data preprocessing pipelines to ensure quality and consistency, enabling accurate analysis and interpretation
- Conducted correlation analysis and applied predictive modeling and uncovered associations between crop health, phenological stages, and yield outcomes using Excel, SQL, scikit-learn and Jupyter Notebook

Research Assistant   **Dec 2021 – Aug 2023**
Zhang Lab – Starkville, MS

- Implemented hardware design, machine learning and deep learning algorithms such as YoloV7 to develop artificially intelligent systems and robots to improve agricultural practices
- Designed, developed and implemented an embedded system that uses Raspberry Pi 4B and automates continuous crop monitoring, significantly reducing the need for manual labor and repetitive tasks by 90% in agricultural settings

Projects

HandsInSync   **Aug 2023 – Present**

- Led the design and development of "HandsInSync," an innovative glove-based system engineered to bridge communication barriers by translating American Sign Language (ASL) into audible speech
- Collaborated with a multidisciplinary team of engineering students, overseeing the project from concept to execution
- Successfully integrated Bluetooth Low Energy (BLE) technology to establish seamless communication between the microcontroller and microcomputer components, allowing for real-time data transmission and enhancing the usability

Virtual Reality Games   **Jan 2022 – May 2022**

- Created captivating virtual reality experiences, such as a rock-climbing game and a dystopian horror game, by using Unity as part of the Virtual and Extended Reality Development Class.

Skills

Software Development: Debugging, Quality assurance and maintenance of code, Distributed client-server programming
Programming: C, C++, C#, Python, VHDL, MIPS assembly, MATLAB
Electronics: Circuit design, Soldering, Microcontroller integration
Language Skills: English, French, Hindi, Gujarati