

SAURABH SINGHAL

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EDUCATION

Purdue University

West Lafayette, IN

Bachelor of Science in Robotics Engineering Technology | Minor - Computer Science

May 2024

Dean's List & Semester Honors – Fall 2020 | Spring 2021 | Fall 2021

GPA: 3.58/4.00

Relevant Coursework: Data Mine with Python | FANUC and Yamaha robots | Analog and digital circuit design | Data acquisition systems | Industrial controls | Programming in C | Design thinking | Applied Statics | Statistics | Dynamics | Engineering technology applications & foundations | Multivariate calculus |

WORK EXPERIENCE

PlaneEnglish | Data Mine Corporate Partners Program

West Lafayette, IN

Data science intern

Jan 2022 - Present

- Trained the models on different datasets and parameters like pitch, tone, and depth to achieve best sounding voice for aviation specific vocabulary
- Integrated FastSpeech 2s into the model which resulted in improving the speed of voice generation by approximately 52 times of the initial model
- Improved the learning experience of approximately 1000 aviation students, with reportedly better results from the students

Discovery Park Undergraduate Research Internship | Soft Robotic Hand

West Lafayette, IN

Undergraduate research assistant

Sep 2021 – Present

- Identified solutions in terms of actuation and materials to develop a powerful, lightweight, and dexterous robotic hand which could be used in industries like medical, agriculture, and many more
- Designed and fabricated a soft-robotic hand using SolidWorks with six degrees of freedom
- Programmed and simulated the algorithm for the motion of the hand using ROS and C++ programming.
- Integrated F/T sensors and actuators to transition our work from simulation to real world

Vertically Integrated Projects | Artificial Intelligence for Small Unit Maneuver

West Lafayette, IN

Team Leader

Aug 2021 – Dec 2021

- Formulated an object detection model using the YOLO v5 algorithm trained on COCO datasets
- Leveraged the PX4 controller to operate a VOXL m500 drone to test rudimentary navigation scripts to transition our work from a simulation to a real drone
- Applied the concepts of computer vision to aid the NSWCC crane team that ensures the safety of patients in hospitals and to maneuver strategically important military locations

PROJECTS

College admissions decision maker

West Lafayette, IN

Individual Project

Jul 2021 – Aug 2021

- Created an algorithm that predicts the chance of a person getting into a college of choice, based on SAT Math and English scores using MATLAB programming language
- Implemented logistic regression algorithm under the supervised learning methods to give predictions with an accuracy of 89%
- Helped approximately 500 students applying to study in the US from my city to land their dream school

House price predictor

West Lafayette, IN

Individual Project

Jul 2021 – Aug 2021

- Created an algorithm that predicts the house price of a specific region based on the plot area and number of rooms using MATLAB programming language
- Implemented linear regression algorithm under the supervised learning methods to give predictions with an accuracy of 90%
- Simplified the real estate sector's major problem of buying property at the right place, at the right time, and at the right price

LEADERSHIP EXPERIENCE

Boiler Gold Rush

West Lafayette, IN

Team Leader International

Aug 2021 – Sep 2021

- Oriented a group of 33 freshmen students coming to Purdue University by presiding over the daily meetings and deciding everyday agendas
- Made the transition of new students to their college lives smooth and streamlined by sharing my experiences and catering to their doubts at every step

AWARDS AND CERTIFICATIONS

- C++ specialization by University of California, Santa Cruz Nov 2021
- DURF research fellowship (\$1000) 2021-2022 Sep 2021

TECHNICAL SKILLS

Languages: Python | Java | C/C++ | MATLAB | GNU Octave | SQL | System Verilog | Ladder Logic | Structured Text

Tools: Data Structures | Pandas | TensorFlow | PyTorch | NLP | Open CV | Computer Vision | Machine Learning | SPSS | Analog and Digital circuit design | HMI | PLC programming | Oscilloscopes | FPGA's | CAM | RF Antennas | Linux | Unix