MRITUNJAY KUMAR SINGH

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EDUCATION

Vellore Institute of Technology (Bhopal, Madhya Pradesh) **2021 – Ongoing**
BTech- Electronics and Communication Engineering *CGPA- 9.1*

Nezamia Public School (Patna, Bihar) **2018 – 2020**
12th / Board – (CBSE) *72.8%*

Saint. Francis School (Deoghar, Jharkhand) **2016 – 2018**
10th / Board – ISCE(CISCE) *89.1%*

SKILLS

- Technical Skills - Java, Circuit Design and Prototyping, Arduino IDE, PCB-Design, Hardware Description Language
- Tools-Matlab, Simulink, Solidworks, Ki Cad, Verilog, MS Office
- Soft Skills-Leadership, Communication, Creativity, Teamwork, Drive and Initiative.

PROJECTS

Gesture Recognition and Control for Automotive Applications **Jan 2024**
Tinker cad, Arduino, LT Spice, KI Cad

- Architected and executed and developed a functional prototype for a gesture-controlled car utilizing [Arduino, Hardware, Wireless communication, Sensor integration to achieve 80% intuitive control.
- Fabricated an IoT-based gesture-controlled car utilizing a hand-mounted accelerometer for intuitive control andgestures map to car movements, achieving real-time direction changes up to 90%
- Headed up a team of 3 to design and implement gesture recognition technology, prototyping and testing, enhancing human machine interactions and achieving a great change for handicapped people

Automated Security Surveillance Platform **Mar 2023**
Multisim, Proteus, Hardware Integration, ESP-32

- Engineered and implemented a home security system leveraging ESP32CAM module and Telegram integration for real-time monitoring and mobile alerts significantly enhancing user interaction.
- Enhanced sophisticated ESP32 cam features using PIR motion sensor, boosting intent recognition accuracy by 60 % andincreasing home security awareness through real-time monitoring.
- Executed a user interface with a Telegram Bot, integrating motion detection and real-time alerts; reduced response time by 45% and increased user engagement by 60% in three months.

Advanced IoT-Enabled Health Monitoring Platform **Oct 2022**
Proteus, MATLAB, Solidworks, Arduino IDE

- Formulated an IoT-based patient health tracking system for remote monitoring of elderly or disabled individuals, facilitating emergency response reducing death risk by 75%.
- Leveraged heartbeat and temperature sensors to gather vital health data and transmit alerts in case of abnormalities and integrated GPS for patient location tracking and enabled SMS alerts to for timely intervention
- Implemented secure data transmission to a cloud server via Wi-Fi for monitoring results on a cloud server for remote access and analysis increasing user experience achieving 99% security while data transfer

CO-CURRICULARS

- Led a team of 20 members to the design and manufacturing of an Electric All-Terrain Vehicle (E-ATV) as part of the official E-Baja team at VIT University for participation in competitive events like BAJA and ATVC
- Selected to participate in the "Trash to Treasure Ideation Hackathon" (2023) - Electronic Waste category

CERTIFICATIONS

- MATLAB Onramp-MATLAB
- IBM Data Analyst Professional Certificate-Coursera
- Machine Learning Specialization-Coursera
- VLSI Design Methodologies & RISC-V RV32I RTL Design using Verilog HDL

ACHIEVEMENTS

- Led the E-ATV sales team at VIT University, achieving an All-India Rank 2 in a sales presentation competition. This accomplishment demonstrates effective leadership, sales strategy, and teamwork