NITESH REDDY

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Education

Bachelor of Technology (Electronics and Computer engineering),
Mahindra University — October 2020– Present
CGPA: 8.0/10.0 (till 6th semester)

Intermediate, Fiitjee Junior College, Hyderabad. — June 2018 – May2020
Percentage: 93.6 %

10th Grade, Johnson Grammar School (ICSE), Hyderabad — May 2017 – June2018
Percentage: 87.83 %

Experience

Nuclear Fuel Complex, DAE Hyderabad — January 2023 – February 2023
Title: **Data acquisition** from an electron beam melting furnace.

- Collected temperature readings from the furnace using a **thermocouple sensor**.
- Communicated data via **Mod-bus** protocol using **RS-232 and RS-485** serial communication.
- Utilized Python modules like **PyModbus, matplotlib** to plot and visualize real-time time series data.

Directorate of special projects, DRDO Hyderabad — June 2023 – August 2023
Title: Implementation of **MIL-STD-1553** using **Arduino Uno.**

- Research on interfacing **ATMega328P micro-controller with BU 61580 ACE.**
- Research on communication and data transfer via **MIL-STD-1553 protocol**.
- Gained practical experience in **embedded systems** and micro-controller programming.
- Strengthened knowledge of **aerospace** and **defense communication standards**.

Harvested Robotics, Hyderabad — November 2023 – Present

- Proficient in **Arduino, Raspberry Pi, and ESP32 programming**, enhancing robotic hardware integration for diverse farming conditions.
- Implemented advanced **multi-sensor fusion for the laser weeding device**, improving accuracy and responsiveness to environmental factors.
- Led the optimization of machine stability using **step-up and step-down buck converters**, ensuring precise voltage delivery for diverse components, minimizing excess power consumption.

SAE Aero Team, Ecole Centrale School of Engineering — July 2021 – August 2023

- Led and directed the **Avionics team** at Aero Club, Mahindra University, orchestrating the successful development and operationalization of a radio-controlled aircraft in the regular category.
- Designed and implemented optimized **control surfaces** sizing increasing aerodynamic performance and reducing stress on airframe.
- Participated in an **ADDC, Chennai** (Autonomous Drone Design Challenge**)** , actively collaborating with **ArduPilot** technology to craft intricate **flight paths** for the drone's operation.

Projects

Smart farming Robot :
Prof:Pooran singh, PhD IIT Indore, December 2023 -Present
Mahindra University, Hyderabad
-Spearheaded the development of a comprehensive system encompassing **irrigation system monitoring, weed eradication, obstacle detection,** and digital image processing.
-Orchestrated the design and implementation of an advanced solution to enhance efficiency in agriculture and resource management.

Crowd Source Air Quality Device: January 2023 - June2023
Prof: Bhargava Rajaram , PhD The University of Edinburgh
Mahindra University, Hyderabad
-Engineered a multifunctional device for sensor data collection, storage, and real-time analysis.
-Developed a solution to effectively gauge pollution levels in the surroundings, enabling users to receive **Bluetooth**-enabled updates via integrated **GPS module**.

Non – contact biovital sensing system: August 2023 – Present
Prof: Bhargava Rajaram , PhD The University of Edinburgh
Mahindra University, Hyderabad
- Actively leading and contributing to an ongoing project centered around non-contact biovitals sensing systems.
- Employing advanced technologies and methodologies to develop a cutting-edge solution for **remote vital sign monitoring.**
- Utilizing signal processing techniques to extract accurate and **real-time vital sign information.**

Skills

Computational tools/skills: C programming, Python, Machine Learning, Digital system Design, Analog and Digital electronics, Embedded system design.

Design software: AutoCAD, Inventor, Arduino, XFLR.

Awards and Achievements

Received a **merit scholarship** of Rs1,00,000 for the academic year 2021 -2022 for my academic achievement in Mahindra University, Hyderabad.

Extracurricular activities:

- Finished in top 10 teams in the SAE Aero Design Challenge 2022, Chennai under Regular flight category in the southern section of the country.
- Part of Hult prize logistics team, which is an annual start up meet where entrepreneurs from different sectors pitch their business ideas and interact with their mentors.
- I am part of the university cricket team and actively participated in various inter university tournaments. Runner up at the Mahindra University annual sports fest AIRO (2022-2023).