Satwik Agarwal

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EDUCATION

B.Tech. , CSE
Manipal Institute of Technology, Manipal
2021 - 2025 *CPGA : 8.9*

CBSE 12th
Welham Boys' School , Dehradun
2019 - 2021 *Grade:99% (School Topper)*

SKILLS

C/C++ | Embedded Systems | Python | Javascript | ReactJS

PROJECTS

STM32 based Flight Computer

- Wrote firmware for custom stm32 based flight computer responsible for apogee detection, data aquisition and telemetry.
- Custom drivers for sensors using I2C, SPI.
- implemented ADC, Interrupt Handling and DMA.
- Tech: STM32F4 microcontroller, Embedded C, stm32cubeIDE
- code: https://github.com/asatwik218/STM32-projects

Realtime Data Plotter

- An app made with VPython which receives telemetry data from the flight computer and plots the relevant data after applying filters.
- Has realtime 3d model simulation of the rocket using IMU data from the flight computer.
- Tech Stack : VPython , py-serial
- Code: https://github.com/asatwik218/TMIT-Plotter

Ignition System

- A transmitter pcb which sends a signal for motor ignition after proper safety and launch instructions.
- A receiver pcb which ignites the motor and records and stores the load cell and pressure transducer data .
- Tech : Arduino nano, NRF24L01 rf modules , cpp
- Code: https://github.com/asatwik218/TMIT-Ignition_System

WORK EXPERIENCE

Avionics Engineer
thrustMIT, Manipal
08/2021 - Present
ThrustMIT is India's top Student Rocketry team which competes in the SpacePort America Cup,New Mexico by building a 10,000 ft. Sounding Rocket each year.

projects

- Worked on the Rocket Flight Computer, a Realtime Data-Plotter and Simulation, Rocket Motor Ignition Systems.