Priyanshu Jain

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Profile summary

Scientist/Engineer-SC, Indian Space Research Organization (ISRO), Bengaluru Dec 2021 – Present

- Collaborating with the established system to guarantee the daily operations of satellites (Aditya-L1 and Astrosat), implementing automations akin to routine operations to minimize manual interventions aimed to enhance throughput with the current workforce.
- Working on the migration of legacy tools to newer, more robust and efficient solutions aimed at creating a scalable, fault-tolerant, and easily deployable environment.

Intern, Laboratory for Atmospheric and Space Physics (LASP) CU, Colorado June 2019 - Aug 2019

- Conceived of c based conditional Routines for InspireSat-3 payload operations on Xilinx Virtex 5 processor.

Experience

ISRO Bengaluru

- **Revamped Websocket design for Scalability :** Redesigned the VISTAS WebSocket backend, transitioning from C to Go to enhance concurrency efficiency. This upgrade aligns with the shift to Go-based frameworks, improving performance and scalability. **Tools: Go, Gorilla framework**
- **Overhauled telemetry dashboard to Support future missions :** Redesigned the VISTAS software package frontend, originally developed for Chandrayaan-3, to support a real-time telemetry console. This transition to a Reactjs-based configurable dashboard, used for SPADEX, enhances adaptability and introduces reusability for future missions. **Tools : Reactjs**
- Developed COSMOS monitoring software and integrated it with the Elements collaboration app, significantly reducing the burden of round-the-clock monitoring and improving efficiency by cutting workforce requirements by 50%. **Tools: Python, Reactjs, Express.js**
- **Conception and Execution of an Autonomous Object Detection Simulation for the Vyom Robot :** [git-repo] Developed and demonstrated a simulation model for autonomous object detection and isolation using MobileNet and a custom-tuned model. The model maps 3D coordinates to input features, dynamically adjusting to frame changes, aiding the Vyom articulated robot for Gaganyaan. **Tools: Python, PyTorch, Pandas**

LASP, University of Colorado

- **Priority based Pocess scheduler :** Generic Scheduling routine for *Inspiresat-3* for Safety mode for Inspiresat-3 nano satellite. **Tools : C, Xilinx ISE+ design**

Publications

Satellite Data Stability Analysis and Command to PID correlation using Hybrid ML Techniques Jan 2025

Co-Author ***Priyanshu***, undergoing publication Springer

Education

Bachelor of Technology in Electronics and Communications (GPA: 8.0) July 2017 - Sept-2021
Indian Institute of Space Science and Technology

- **Relevant Coursework:** Computational Data science & Deep Learning, Computer Networks, Advance Calculus

Skills

Languages: Python, Go, Javascript, typescript, HTML

Technologies: React, Express, Node, Gorilla Framework, PyTorch, Pandas, Git