SOURAV GHOSH

Aerospace Engineer

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EDUCATION

2020 - 2024 | Jain (Deemed to be University)

Bachelor of Technology - Aerospace Engineering | CGPA - 8.66

2024 - 2026 | The University of Tokyo

Master of Science - Aeronautics and Astronautics

RELEVANT EXPERIENCE

Team Avadhi

Co-founder | May 2022 - January 2024

- Collegiate High Powered Rocketry Club
- Team lead of Avionics and Guidance, Navigation, and Control for Sounding Rockets.
- Also contributing towards Propulsion and Mission Design.
- Designed the Flight Computer and Control system for recovery systems.

Team Ardra

Team Leader | August 2022 - April 2024

- Collegiate CANSAT Team participating in the IN-SPACE CANSAT Competition 2022-24
- Wrote the Flight Software
- Designed a PID Controller for the Reaction wheel control
- Systems Integration of the CANSAT

Small Satellite Project Group - Space Generation Advisory Council

Researcher | December 2023 - Present

- Part of the project group for the 2024-25 session.
- Publication of project work at IAC 2024 at Milan.

Human Space Flight Centre - Indian Space Research Organization

Project Intern | March 2024 - April 2024

- Completion of Final Year project under the guidance of Dr. C Geethaikrishnan, Deputy Director of HSFC, ISRO.

SKILLS

- Programming - C, C++, Python, MATLAB, Octave, Julia, Git
- CAD Design - Autodesk Fusion 360, Catia V6 3DEXPERIENCE
- CFD - ANSYS
- Control Systems Design - Simulink
- Space Mission Design - NASA GMAT, BASILISK
- Embedded Systems Design - Autodesk EAGLE, KiCAD, EasyEDA
- Multilingual - English, Hindi, Kannada, Bengali, and Japanese

RELEVANT PROJECTS

SAEIndia Aerothon 2023 - Control of a Vision Based Autonomous Quadcopter

Completed | 2023

- Implemented Autonomous Operational modes using PyMAVLink
- Implemented Computer Vision using YOLO-V8 for Object Recognition
- Flight Control Design using Pixhawk 2.4.8

Airborne and Space-borne Synthetic Aperture Radar Calibration using Corner Reflectors

Completed | 2023

- Calibration of SAR mounted on an aircraft flying at 10,000 ft.
- Calibration of SAR mounted on RISAT-1A

A Comparative Study of Performance of Modern Lambert's Problem Solvers

Final Year Project | Ongoing | 2023-24

- Under the guidance of Dr. Geethaikrishnan C, Deputy Director, Human Space Flight Centre, Indian Space Research Organization, and Mr. Gnani Ankathi, Scientist C at HSFC.

More Projects: https://souravius1234.github.io/

PUBLICATIONS

Chandar, A.E. et al. (2021) '**Structural Investigation of Agricultural UAV**', International Journal of Scientific Research & Engineering Trends, 7(2).

Ghosh, S. et al. (2023) '**Space Mission Design using the Three-Body Problem**', Jnana Chilume 2023 Recent Trends in Aerospace Engineering.

Savanur, N. et al. (2023) '**Space-based C-Band SAR Calibration using EOS-04 and Passive Corner Reflectors**', Jnana Chilume 2023 Recent Trends in Aerospace Engineering.

Ghosh, S. et al. (2024) '**Lunar Mission Design using the Three-Body Problem**', International Conference on Advances in Aerospace and Energy Systems 2024.

NOTABLE CERTIFICATIONS

- Rocket Propulsion - NPTEL
- Introduction to Launch Vehicle Analysis and Design - NPTEL
- Space Flight Mechanics - NPTEL
- Computational Science in Engineering - NPTEL
- Aerospace Materials - Coursera
- Kinematics: Describing Motion of Spacecraft - Coursera
- Kinetics: Studying Spacecraft Motion - Coursera
- Arm Cortex-M Processors Overview - Coursera
- Engineering Systems in Motion: Dynamics of Particles and Bodies in 2D Motion - Coursera
- AstroTech: The Science and Technology behind Astronomical Discovery - Coursera
- Introduction to Programming with MATLAB - Coursera
- Technical Support Fundamentals - Coursera
- Introduction to Experiments in Flight - IIT Kanpur Flight Laboratory Feb-2023