

# Sanjeev Ranjan

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✉ Dept. of EEE, Indian Institute of Technology Guwahati, Assam, India, 781039

## OBJECTIVE:

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To work in a stimulating environment where I can apply and enhance my knowledge and skills to serve the firm to the best of my efforts. I am willing to work as a key player in a challenging and creative environment.

## ACADEMICS:

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### Ph.D. (Ongoing)

System Control and Automation Engineering,

Department of Electronics and Electrical Engineering, Indian Institute of Technology, Guwahati, Assam, India-781039

Year: 2020 – Present.

**Title of the thesis:** Fault Estimation and Fault-Tolerant Control of Unmanned Aerial Vehicles.

### Master of Technology

Instrumentation Engineering

Department of Electronics and Instrumentation Engineering, National Institute of Technology Silchar, Assam, India- 788010

Year: 2018 to 2020

CPI: 9.39

**Title of the thesis:** Attitude and Altitude Control of Quadrotor UAV.

### Bachelor of Engineering

Instrumentation Technology, Visvesvaraya Technological University, Bangalore, Karnataka

Percentage: 75.43%

Year: 2013 to 2017

### Intermediate Examination (10+2)

Subject: Economics, English, Mathematics, Physics, Chemistry. Board: Jharkhand Academic Council Board, Ranchi, Percentage: 73.20%

### Secondary School Examination (10)

Subject: Hindi, Sanskrit, Mathematics, Social Science, Science, English. Board: Jharkhand Academic Council Board, Ranchi, Percentage: 77.30%

**Qualified GATE in Instrumentation Engineering Stream in 2018 & 2019.**

## PUBLICATIONS:

1. **Sanjeev Ranjan**, and S. Majhi. “ Adaptive neural predefined-time attitude control of an uncertain quadrotor UAV with actuator fault.”, *IEEE Transactions on Circuits and Systems II: Express Briefs* (2024). <https://doi.org/10.1109/TCSII.2024.3433430>
2. **Sanjeev Ranjan**, and S. Majhi. “[Fixed-Time State Observer-Based Robust Adaptive Neural Fault-Tolerant Control for a Quadrotor Unmanned Aerial Vehicle.](#)” *International Journal of Adaptive Control and Signal Processing* (2024). <https://doi.org/10.1002/acs.3925>
3. **Sanjeev Ranjan**, and S. Majhi. “Fixed-time observer-based adaptive free-will arbitrary time intelligent fault-tolerant control for an autonomous quadrotor” submitted in the journal. *International Journal of Systems Science*” with submission ID: 244414631. [\[Under review\]](#)

## Research work:

- ❖ **Ph.D.: Title:** Fault Estimation and Fault-Tolerant Control of Unmanned Aerial Vehicles. | **Supervisor:** Prof. S. Majhi, IIT Guwahati, Assam, India.

**Details:** This PhD work focuses on robust fault estimating techniques and, consequently, designing a novel robust fault-tolerant control scheme for stabilization and control of unmanned aerial vehicles, addressing modeling uncertainty, external disturbances, and actuator faults.

- ❖ **M.Tech.: Title:** Attitude and Altitude Control of Quadrotor UAV. | **Supervisor:** Dr. Manas Kumar Bera, Associate Professor, and Dr. Koena Mukherjee, Asst Professor, NIT Silchar.

**Details:** In the above project, I have designed a robust sliding mode control design algorithm to control and stabilize the UAV with external disturbances.

## WORKSHOPS & TRAINING:

Sr	Title	Organized At	Period
1	Hands-on Training Workshop on Metal Additive Manufacturing Technology	IIT BHU	July 24-30, 2023
2	Research Methodology: Tools and Techniques - II	SVNIT Surat	February 1-5, 2021
3	Machine Learning for Data Science using Python	NIT Warangal	November 14-29, 2022
4	Indo-USA SPARC Workshop on Additive Manufacturing	NIT Surathkal	February 7, 2022

## SKILLS:

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Programming Languages:	MATLAB, CSS, HTML, C/C++
Modeling, Drafting & Assembly:	Simulink, ROS

## SPORTS & CULTURAL ACTIVITIES:

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- ❖ Active Badminton Player at IIT Guwahati and NIT Silchar.
- ❖ Part of the Organizing Team of Cultural Fest in 2018 at the National Institute of Technology Silchar, Assam, India.

## RESEARCH PROFILE ID:

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- ❖ **ORCID ID:** <https://orcid.org/my-orcid?orcid=0009-0004-0873-7047>
- ❖ **GOOGLE SCHOLAR:** <https://scholar.google.com/citations?user=LIFe6E8AAAAJ&hl=en>
- ❖ **RESEARCH GATE:** <https://www.researchgate.net/profile/Sanjeev-Ranjan-15>

## REFEREES:

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- ❖ Dr. Somanath Majhi, Professor, Dept of Electronics & Electrical Engineering., IIT Guwahati.  
✉ [smajhi@iitg.ac.in](mailto:smajhi@iitg.ac.in)
- ❖ Dr. Manas Kumar Bera, Associate Professor, Dept of Electrical Engineering, NIT Rourkela.  
✉ [beramk@nitrkl.ac.in](mailto:beramk@nitrkl.ac.in)
- ❖ Dr. Koena Mukherjee, Assistant Professor, Dept of Electronics and Instrumentation Engineering, NIT Silchar. ✉ [koena.nits@gmail.com](mailto:koena.nits@gmail.com)