

Samanyu Okade



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EDUCATION

Delft University of Technology

Delft, Netherlands

2023-2025

MSc in Electrical Engineering – Microelectronics track, specialisation in Digital Systems

Vellore Institute of Technology

Vellore, India

2019-2023

B.Tech in Electronics and Communication Engineering

TOP TECHNICAL SKILLS

Python; Verilog HDL; RTL Design; Digital CMOS Design; MATLAB; PCB designing; Sensor Technology

WORK EXPERIENCE AND INTERNSHIPS

MKB Data Studio

ML engineer for client, Koninklijke van Twist (KVT)

July 2025- Aug 2025

- Built a **Python pipeline** to parse the power generator issues and multi-template service-report PDFs into normalised CSVs.
- Delivered a **multilabel learning model** with rule checks to flag incomplete fields.

Lunar Zebro

Comms Subsystem Lead

Oct 2024- June 2025

- **Design and critical assessment** of the digital **communications board** (requirements → schematic upgrade → PCB design → radiation-aware parts list → bring-up).
- **Mentor & review** the work of 2 undergraduate engineers, coaching them on **Altium schematics**.

RTips Technologies

Hardware intern

Oct 2022- May 2023

- Researched and improved a device that converts **MODBUS and DALI** communication protocols from the base **design of the PCB** to its integration.

Students for the Exploration and Development of Space (SEDS India)

Executive Director

Nov 2021- Nov 2022

- Successfully led and organised a cross-functional team of 8 SEDS India Staff members to **improve efficiency and communication**.
- **Maintained all projects and relations** within SEDS India and its **14 sub-chapters**.

Chapter Affairs and Expansions Manager

Aug 2020- Oct 2021

- Oversaw the **expansion of SEDS as a chapter to 2 more university teams to join our community** of students for Space Development.
- **Ideating for projects** like CubeSats, and **competitions** like the International Rover Competition and International Rover Design Competition to help all 14 sub-chapters that require it.

The Institution of Engineering and Technology (IET-VIT Vellore)

Hardware Head

Dec 2020- Dec 2021

- **Managed, taught, and guided a team of 12** in learning hardware skills in **embedded systems, fundamentals of communication, CMOS, and digital designs**.
- **Mentored three teams to victory** in hardware tracks and open categories in **hackathons**, Equinox, and Hack4cause.

ACADEMIC PROJECTS

TIENOS: A Tool for Intensive Exploration of Neuromorphic-workloads for Outer Space

Jan 2024 – Aug 2025

- Designing, implementing and testing a **radiation-tolerant digital design** of **Neuromorphic computers** with minimal overhead.
- **Master's Thesis project** utilising the concept of comparatively **energy-efficient SNN** processes to rival the power-intensive **ANN-based hardware** today.
- Compared the error tolerance results of a CNN's predictions on an MNIST dataset with a Spiking CNN on an NMNIST dataset to **prove the error-tolerant abilities of the SNN**.

FPGA based (hardware) decision-making for efficient satellite orientation and propulsion

Oct 2022 – Apr 2023

(Published in IEEE Xplore in June 2023)

- Devised a method for **rockets and propulsion engines** to orient and **align** the solar panels and themselves using **FPGAs** to make the **most efficient positioning decisions** using sensor-based information.

The RTA [Robotic Temperature Analyser]

Mar 2022 – May 2022

- Created a prototype of a small **robot that moves along queues in crowded indoor areas** to ensure a personal space between two people, while also **reading surrounding internal temperature and humidity conditions** for hygienic reasons, including but not limited to COVID-19.

A Robotic Solution for Internal Imperfection Detection in Industrial Machinery

Sept 2021 – Nov 2021

(Published in the AIP Conference Proceedings in March 2024)

- Prototyped a small, mobile robot with flame, DHT-11, MO-26, and ultrasonic sensors to **detect anomalies and conditions within tight industrial equipment spaces**.
- The distance sensor-mounted servo motor automates steering within tight industrial machine spaces.

Goniometry- Visual Aid

Oct 2021

- Extending the use of a **flex sensor incorporated glove** to operate a **feedback system for the visually impaired** while walking, **omitting the use of a walking stick**.
- Using a rotating servo motor mounted with a distance sensor atop a cap would require the user to merely move a finger.

The Goniometric Glove

June 2021

- With this, I design a simple solution to **control a makeshift artificial hand** using the goniometry of our palms via gloves integrated with flex sensors.
- Integrating Machine Learning and Robotics can scale it up to be used in applications ranging from aid for communication using sign language to precise remote-controlled spacecraft repairs.

OTHER TECHNICAL SKILLS

Cadence Genus and Innovus; Embedded Systems; VHDL; Assembly Level Language; Internet of Things; Robotics; basics of C/C++

CERTIFICATIONS

- Provisional discovery of the Main Belt asteroid 2021EM17.
- CMOS Digital VLSI Design-course certification offered by IIT Roorkee. (NPTEL)
- Linear Circuits 2:AC Analysis-course certification offered by Georgia Institute of Technology. (Coursera)
- Introduction to Electronics-course certification offered by Georgia Institute of Technology. (Coursera)
- Introduction and Programming with IoT Boards-course certification offered by POSTECH. (Coursera)

- National Science Olympiad (NSO) Zonal Gold medalist in 2015.
- Academic proficiency awards in 2013, 2015, and 2017.

CAMPUS & COMMUNITY INVOLVEMENT

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| • Core Committee member at the Institution of Engineering and Technology (IET) | 2019-2023 |
| • SEDS India Staff and Board member | 2020-2023 |
| • Alpha team member of VIT Dance club | 2020-2023 |
| • Flautist and musician in VIT Community Radio | 2019-2023 |
| • VIT Swim team | 2019-2023 |

KEY SKILLS

Leadership; Public-speaking; Effective Communication; Team-management; Writing; Creative thinking; Adaptability

EXTRA-CURRICULARS

- Participated in and won art and painting competitions, both national and International (Japan, India, and Malaysia).
 - Poom Belt in Taekwondo.
 - Participated in and won competitions of various levels as a Flautist, keyboardist, Vocalist, and Dancer.
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