Samartha S

Passport: Z8163845 **Work permit:** Indian **Nationality:** Indian

Date of birth: 03/01/2002 **Place of birth:** Raichur , India **Gender:** Male

Phone number: (+91) 8861486949 **Email address:** samarthas312@gmail.com

Home: Plot no 32, Jagadamba Krupa, Gadagi Layout, Near Renukacharya School, Vijayapura, 586101 Vijayapura (India)

ABOUT ME

As a highly motivated and analytical **Robotics Engineer**, I bring a strong academic foundation and hands-on experience in designing, developing, and implementing innovative **robotic systems and IoT-based solutions**. My expertise spans mechanical design, embedded systems, and software development, with proven proficiency in **Pyth on, ROS/ROS2, PCB Design, and CAD tools like CATIA and Fusion360.** Passionate about automation, intelligent systems, and problem-solving using cutting-edge technologies, I am eager to contribute to challenging projects in **ro botics, autonomous systems, AI, and software development,** aiming to deliver impactful and efficient solutions.

WORK EXPERIENCE

Center of Robotic Research, Nitte Meenakshi Institute of Technology – Bengaluru, India

City: Bengaluru | **Country:** India | **Website:** nmit.ac.in | **Email address:** samartha.s@nmit.ac.in | **Name of unit or department:** Robotics and AI - **Business or sector:** Education

Link https://drive.google.com/file/d/1gfIpDZmyhQCCLkDDYFoTXKp-rR_1fDc9/view?usp=drivesdk

RESEARCH ASSOCIATE

[23/06/2025 – Current]

As a Research Associate at the **Center for Robotic Research,** Nitte Meenakshi Institute of Technology (NMIT), I am actively involved in the development and testing of **advanced robotic systems**. My responsibilities include assisting in the design and implementation of autonomous navigation algorithms, working with **ROS/ROS 2** frameworks, and integrating sensors and embedded systems for real-time applications. I collaborate with faculty and fellow researchers to **conduct experiments, develop prototypes, and contribute to technical documentation and publications**. This role allows me to apply my knowledge in **robotics, IoT, and AI**, while continuously learning through hands-on research and innovation.

Newrro Tech LLP – Bengaluru, India

City: Bengaluru | **Country:** India | **Website:** newrro.in | **Name of unit or department:** Robotics - **Business or sector:** Professional, scientific and technical activities

ROBOTICS SOFTWARE ENGINEER

[21/06/2025 – Current]

As a Robotics Software Engineer, I work on designing and programming robotic systems using ROS. My role includes creating mechanical designs, integrating sensors, implementing navigation algorithms, and testing in simulation for mechanical stress and load, enhancing both my robotics and programming skills.

Newrro Tech LLP – Bengaluru, India

City: Bengaluru | **Country:** India | **Website:** newrro.in | **Name of unit or department:** Robotics - **Business or sector:** Professional, scientific and technical activities

INTERN - ROBOTICS DEVELOPER

[06/01/2025 – 06/04/2025]

As a Robotics Developer, I work on designing and programming robotic systems using **ROS 1 and ROS 2.** My role includes creating mechanical designs, integrating sensors, implementing navigation algorithms, and testing in simulation for mechanical stress and load, enhancing both my robotics and programming skills.

Drona Automations Pvt Ltd – Bengaluru, India

City: Bengaluru | **Country:** India | **Website:** http://dronaautomations.com/ | **Name of unit or department:** Robotics - **Business or sector:** Professional, scientific and technical activities

INTERN - MECHANICAL AND IOT ELECTRONICS DESIGN ENGINEER

[10/2022 – 04/2023]

I worked as a Mechanical Designer and Electronics Engineer. I worked on CATIA Software for Designing the products and drafting the design. I worked in the sector of sewage cleaning robots. I also worked on IoT Boards and various sensors and projects. I also write codes for the boards.

EDUCATION AND TRAINING

Bachelor's in Technology in Robotics and Automation

REVA University [20/12/2022 – 13/06/2025]

Address: REVA University State Highway 104 Srinivasa Nagar Kattigenahalli, Yelahanka, 560064 Bengaluru (India) | **Website:** reva.edu.in | **Field(s) of study:** Robotics and Automation | **Final grade:** 8.21 | **Level in EQF:** EQF level 6 | **NQF Level:** Level 7 | **Type of credits:** 10 | **Number of credits:** 8.21

During my B.Tech in Robotics and Automation at REVA University, I received a multidisciplinary education combining mechanical systems, electronics, computer programming, and artificial intelligence to build and control intelligent robotic systems. I studied core subjects such as embedded systems, sensors and actuators, control systems, computer vision, kinematics and dynamics of robots, microprocessors, automation systems, and machine learning. I gained practical experience through projects involving Arduino, Raspberry Pi, IoT systems, and industrial robotic simulations. Advanced topics like AI integration in robotics, SLAM (Simultaneous Localization and Mapping), mobile robotics, and cyber-physical systems were also part of the curriculum. I actively engaged in lab work, industry-oriented mini projects, and participated in REVA NEST's innovation ecosystem where I worked on real-world problem-solving using robotics and automation. The program emphasized hands-on learning, interdisciplinary skills, and problem-solving using modern tools like ROS, MATLAB, Python, and C/C++. I completed a capstone project and gained knowledge in building smart systems integrating hardware and software. This foundation has prepared me to take on roles in robotics development, automation engineering, and R&D in emerging technologies.

Pre-University Education / Inter

Mahaveer Jain PU College, Jayanagar [2018 – 2020]

City: Bengaluru | **Country:** India | **Website:** https://www.jaincollege.ac.in/ | **Field(s) of study:** Physics, Chemistry, Mathematics and Biology | **Final grade:** 77.6 | **Level in EQF:** EQF level 6 | **Type of credits:** Percentage

LANGUAGE SKILLS

Mother tongue(s): Kannada

Other language(s):

Hindi

LISTENING B2 **READING** B2 **WRITING** B1

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Telugu

LISTENING B1 **READING** B1 **WRITING** A1

SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B1

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

German

LISTENING A1 **READING** A1 **WRITING** A1

SPOKEN PRODUCTION A1 **SPOKEN INTERACTION** A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Python / Pyttsx3 / Speech Recognition / Deep Learning / Machine Learning / OpenCV / Git / Keras / Numpy / Pandas / Tensorflow / Scikit-Learn / Matplotlib / Computer Vision / ROS Navigation and ROS OpenCV / Linux / C++ / Java / ROS 1 / ROS 2 / ROS Navigation / ROS OpenCV / ROS Mapping / CAED / 3D Modeling / Catia / Fusion 360 / Easy EDA / Basic knowledge of Altium / Circuit designing KiCad / CAD software / design circuits using CAD / Internet of Things / Raspberry Pi / Arduino / Design of Mechantronic System (Arduino, Raspberry Pi, Jetson TX2) / Jetson family / Esp32 / LoRa WAN / IoT sensors / SENSORS AND ACTUATORS / Robotics Training / SLAM (Simultaneos Localization and Mapping) / LIDAR, Photogrammetry, and UAV sensors and platforms / Electrical design of UAV / Mechanical design of UAV / Mechanical Design of Robots / MAVROS / PX4 flight control and mavros / Pixhawk/PX4 flight controllers / unmanned air systems / Building and tunning racing Drones / Flight controllers / research new ideas / assemble robots / robotics / emergent technologies / human-robot collaboration / computer vision / develop computer vision system / robotic components / set up automotive robot

PUBLICATIONS

[2024]

A Comprehensive Solution for Indoor and Outdoor Floor Maintenance

This project presents a Bluetooth-controlled floor cleaning robot designed for efficient and automated sanitation. Controlled via a custom smartphone app, the robot features a sweeping brush, mop arm with water tank, and a duster arm, enabling thorough cleaning of various surfaces. Powered by BLDC motors and an Arduino Mega microcontroller, it offers precise movement and smooth operation. Bluetooth connectivity ensures easy user control, while its compact design suits both indoor and outdoor environments. Combining mechanical design and electronic control, this robot provides a smart, user-friendly solution to modern floor cleaning challenges.

Authors: M. R. Bharamagoudra, S. Samartha, S. G. Dharwad and B. Suriyha | **Journal Name**: 15th International Conference on Computing Communication and Networking Technologies (ICCCNT) | **Volume, Issue and Pages**: p1-6 | **Publisher**: IEEE

M. R. Bharamagoudra, S. Samartha, S. G. Dharwad and B. Suriyha, "A Comprehensive Solution for Indoor and Outdoor Floor Maintenance," 2024 15th ICCCNT, Kamand, India, 2024, pp. 1-6

Link: https://drive.google.com/drive/folders/1gie7IK7xu_AYtSEYKqAQ2KWBXo1l0Jvo

PROJECTS

[06/2025 – Current]

Voice Controlled Smart Home Automation

This project focuses on developing a smart home automation system using speech-controlled technology. The system allows users to control electronics and appliances remotely through voice commands, enabling automatic switching of devices like lights, fans, and other appliances. Beyond simple control, the system is integrated with AI to provide additional features such as delivering news updates, telling jokes, and offering real-time information on various topics. The project leverages technologies such as natural language processing, IoT (Internet of Things) devices, and smart assistants, creating a seamless and user-friendly experience for enhancing daily living. This ongoing project aims to improve home convenience, energy efficiency, and user interaction with smart devices.

[11/2024 – 06/2025]

Integration of MAVROS for Indoor and outdoor Autonomous Drone Navigation

Worked on an advanced drone project, enhancing a Pixhawk-based quadcopter with autonomous navigation for indoor and outdoor use. Integrating GPS, LiDAR, and ultrasonic sensors for positioning and obstacle avoidance.

Implementing FPV and real-time telemetry for improved control. Developed skills on autonomous systems, sensor integration, and UAV dynamics.

Link: https://drive.google.com/file/d/1hdSHrm5YOn8qc0QlHbDnkMLecqObfcoq/view?usp=drivesdk

[09/2024 – 10/2024]

Automated Product Recognition & Quality Check Solution

- Developed a product recognition and quality check system for warehouses, a Flipkart Grid 2024 initiative.
- Implemented deep learning (TensorFlow) for accurate product identification and freshness assessment.
- Integrated OCR functionality to extract manufacturing dates, expiry dates, and MRP from product packaging.
- Automated the detection of expired products, enhancing warehouse inventory management.
- Designed a Python-based solution for efficient and automated quality control in a logistics setting.

Link: https://drive.google.com/file/d/1h1LJ8odXdNmp-7ayJmHLyn2qgsWrTsom/view?usp=drivesdk

[02/2024 – 05/2024]

Pixhawk Drone Development

I and a teammate built a fully functional quadcopter drone using a Pixhawk flight controller as part of a self initiated project to learn the fundamentals of drone technology. The project involved assembling key components such as motors, ESCs, a GPS module, and a LiPo battery, as well as setting up the flight control system. I developed skills in soldering, wiring, and configuring the Pixhawk to ensure stable flight and GPS navigation. This project provided hands-on experience in drone assembly, flight dynamics, and troubleshooting,
laying a strong foundation for further exploration into drone technology.

Link: https://drive.google.com/drive/folders/1lAY88G-94y7JmFeyVIHnqkRH-_oXV4VT

[09/2023 – 11/2023]

Health Monitoring System

Developed of project on real world-based scenario Health Monitoring System with Raspberry Pi, providing real-time tracking of vital signs like heart rate, blood pressure, ECG, and temperature. Features include instant graphical representation on an LCD display, cloud integration for remote monitoring, and an alert system for emergency notifications to healthcare providers.

Link: https://drive.google.com/file/d/1hdSHrm5YOn8qc0QlHbDnkMLecqObfcoq/view?usp=drivesdk

[07/2023 – 11/2023]

RoboGleam - The Floor Cleaning Robot

A floor cleaning robot designed for indoor and outdoor both purposes. It's a Bluetooth controlled robot attached with two robotic arms, one at the top for dusting the tables and one at the back for moping which is supplied with water from the tank using a pump. Everything is controlled through an app using Bluetooth.

Link: https://drive.google.com/drive/folders/1-EOYLkUtBmahFiSPzkfEI0wTFZ3aHfzJ?usp=drive_link

[10/2022 – 12/2022]

3D Fabrication Designing

I have created many models for the college projects and even designed some of them on my own interest. I designed 4 Key chains with different font letters, an elbow pipe, a piggy bank box, and finally GSLV Mk II launching vehicle part by part and assembled it but just the outer skeleton.

Link: https://github.com/samptec/GSLV_II.git

[09/2022 – 11/2022]

Smart Agriculture Monitoring System

Me and a team of 3 members made a project on smart agriculture monitoring system. Pared it to help the farmers with climate monitoring, humidity, and smart irrigation. I took the initiative of circuits and coding for the project.

Link: https://drive.google.com/drive/folders/1lUvSy_hwFVAFZuj6Wl6ril8QQhAG5ooF

[08/2021 – 09/2021]

A Company Website for Service Providers

I built a website for a service provider company which provides services like laptop repair, office stationaries, sales services, etc.

Link: https://samptec.github.io/InfiniteMart/

[03/2021 – 08/2021]

Frank Al Personal voice assistant

Frank is an Al Personal assistant built for my personal use. It is a voice-based assistant. I built two versions of it one is a basic one and the other is a bit more featured one. The second one has a face recognition in it. It recognizes people and greats them with their names. I am planning for the more advancement of this feature by limiting features based on person using my system.

Link: https://github.com/samptec/Mr.Frank.git

HOBBIES AND INTERESTS

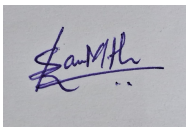
Teaching and learning new technical things

Travel

Sports

Research and Development

I hereby declare that the above information is true to the best of my knowledge and I am committed to contributing meaningfully as a Robotics Engineer through continuous learning and innovation.



Bengaluru , 30/07/2025

Samartha S