Suhrudh S

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Robotics Engineer | Undergraduate BITS Goa, India (Major: EEE, Minor: Phy)

EDUCATION

BITS PILANI,
KK BIRLA GOA CAMPUS
BE in Electrical Eng
Aug 2019 - Aug 2023 | Goa, India
Major in Electrical Eng
Minor in Physics
CGPA: 7.8/10

LINKS

Twitter: SuhrudhS
Github: SuhrudhSarathy
LinkedIn: Suhrudh Sarathy

COURSEWORK

UNDERGRADUATE
Calculus, Probability and Statistics
Linear Algebra, Differential Equations
Optimisation
Mechanics, Oscillations and Waves
Computer Programming
Control Systems, Modern Control Systems

OTHERS
Introduction to Robotics
Advanced Robotics

SKILLS

PROGRAMMING
Proficient:
Python • Shell • C/C++ • ROS/ROS2
Comfortable:
Javascript • MATLAB • LaTeX• Rust

VOLUNTEER

•Senior Core Member (2019-2022), Electronics and Robotics Club(ERC)
•Senior Core Member (2019-2022), Aerodynamics Club
•Core Member (2020-2021), Project Kratos

RESPONSIBILITIES

PRESIDENT, CTE
• Led a group of over 40 members of the Center for Technical Education (CTE) at BITS Goa to foster a more technical culture through the organization of workshops, the sponsorship of projects, and the provision of academic mentoring.

EXPERIENCE

PEPPERMINT ROBOTS | Robotics Engineer
Robotics Engineer - II | May 2023 - Present | Pune, India
• Developed an MPC-based path tracking controller. • Contributed to the design and architecture of custom navigation stack.
Robotics Engineer - I | Feb 2023 - April 2024 | Pune, India
• Developed software for on-field mission and task planning using Behavior Trees. • Optimised turning behaviour by making it smooth and time optimal • Contributed to overall logging and observability of software.

RBCCPS, IISC | Research Intern (Bachelor's Thesis)
Jun 2022 – Dec 2022| Bangalore, India
• Worked under the supervision of Prof. Shishir Kolathaya, IISc and Prof. Debashish Ghosh, IISc for my Bachelor Thesis.• Developed area coverage algorithms for Multi-agent aerial swarms • Tested developed algorithms on DJI Matrice.

BLACK COFFEE ROBOTICS | Robotics Intern
Mar 2022 – May 2022| Remote
• Developed Multi Robot simulation tools• Designed and developed Robot simulation in Unity and integrated them with ROS/ROS2.

OTTONOMY | Robotics Intern
Sep 2021 – Dec 2021| Remote
• Tested and compared Sampling based and search based planning algorithms for Navigation in Urban environments • Developed a 2.5D search based algorithm and designed and tested heuristics for planning.

PEPPERMINT ROBOTS | Robotics Intern
Jun 2021 - July 2021| Pune, India
• Developed a new Human Machine Interface in QtQuick and QML that is touch enabled. • Worked on developing a Motion Primitives based local path planning algorithm. Tested and optimised the planning time to be less than 100 ms.

PROJECTS

AUTONOMOUS DRONE | Open Source, Personal
August 2020 – December 2020
• Built a ROS package for an Indoor Autonomous Drone. • Successfully wrote and tested an RRT based 3D Path Planner with Trajectory Optimisation. • Wrote an article on my website on the project.

TROTBOT | Open Source, ERC
Jan 2020 – May 2022
•Restructured and built the software stack for an Omni directional autonomous indoor robot. • Researched and implemented indoor localisation. • Lead the team on research and future development using learning based techniques.

3D MAPPING OF DRONE SWAMPS | Govt. Funded Project, Goa
Sept 2021 - Dec 2021
• 3D Mapped an area of 44.8 sq. km of Mangrove Swamps in and around Goa using a DJI Phantom • Built an Ensemble model (CNN) for Species Identification (acc. 86%, f1. 0.86) and an app using TKinter.