

Akash Das

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INTERESTS	Unmanned Aerial Vehicles, Embedded System Designs, Electronics Circuit Design, Autonomous Robots, Motion Planning, Internet of Things.	
EDUCATION	Institute of Engineering and Management	Kolkata, India
	- <i>B.Tech in Electronics and Communication Engineering</i>	2019 - 2023
	<ul style="list-style-type: none">• CGPA: 9.24 out of 10• Coursework : Embedded System Design, Analog and Digital Electronics, Basic Control Theory, English, Coding Languages like C, C++, python, Data Structures, Algorithm and many other related subjects.	
	St. Jude's High School	Kolkata, India
	- <i>Indian School Certificate Examination (ISC)</i>	2019
	<ul style="list-style-type: none">• ISC percentage: 97.75 % in 2019• Focus areas: Physics, Chemistry, Mathematics, Computer Science, English	
EXPERIENCE	Embedded Developer Intern	Nov 2020 - Feb 2022
	Altor Smart Helmet	Kolkata, India
	<ul style="list-style-type: none">• Worked on Smart Helmets for Road Safety and Use.• Coded different Micro controllers and interfaced various Hardwares and Sensors.• Worked on communication protocols like I2C, SPI, UART• Testing product's features and Analysing the test results and Debugging.	
	e-Yantra IIT Bombay Summer Intern	June 2022 - July 2022
	e-Yantra	Mumbai, India
	<ul style="list-style-type: none">• Worked on the Mobile Robot, Autonomous Navigation.• Worked on daughter PCB designing.• Embedded Software and Hardware Integration.	
	Junior Researcher	May 2021 - Jan 2022
	IEM IEDC Lab	Kolkata, India
	<ul style="list-style-type: none">• Actively involved in Research and Development of technologies related to Robotics, Automation and Embedded System Design• One of the most active members of Hardware and Electronics Department in IEDC lab.	
AWARDS & RECOGNITIONS	<ul style="list-style-type: none">• Senior National Scholar 2019 (Under the State Government of India) - Jagadish Bose National Science Talent Search (JBNSTS) [certificate]• e-Yantra Robotics Competition IIT Bombay 2021-22 - Became one of the 8 finalists from India in this national robotics competition. [certificate]• India International Science Festival 2021 - Two of my projects got selected within the top 50 projects among 1200 projects submitted. I represented my university in National Level in this competition. [certificate]	

- **eHaCON 2021 International Ethical Hacking Conference** - I grabbed the first and second prize among the 100 projects submitted in the project presentation competition in this conference. [\[certificate\]](#)
- **EDGE Electronics Coding Contest Winner**, 2021 [\[certificate\]](#)
- St Jude's High School Topper, ISC, 2019
[\[Appreciation Letter from Chief Minister, Gov of West Bengal\]](#)
- **R.A.C.E Hackathon Winner**, NIT Durgapur, 2022 [\[certificate\]](#)

SKILLS

- Robot Operating System(ROS), Embedded System Design, Digital & Analog Electronics, Data Structure & Algorithms, Basics of Computer Network
- Arduino, Raspberry Pi, ESP32, ARM based Microcontroller like STM32
- C, C++, Python Scripting
- Kicad, EasyEDA, Gazebo, STM32CubeIDE, LTSpice
- Digital Signal Oscilloscope, Spectrum Analyzer, Logic Analyzer

PROJECTS

- **Prota - The ROS Bot** - Autonomous Mobile Robot for Indoor Navigation and SLAM. Worked on ROS, PCB designing and Embedded System Design - *Raspberry Pi, ESP32, ToF Sensors, Lidar, MPU, Encoders* [\[Image\]](#) [\[Video\]](#)
- **Mini Racing Drone with SpiderBot** - Implemented a small concept of Swarm Robotics in this project, connecting the SpiderBot and the Drone through MQTT. The Drone also had video processing capabilities - *stm32, flysky, 8250 coreless motors, ESP32 cam, Betaflight, Servo Motors, Servo Driver* [\[Video\]](#)
- **Strawberry Stacker** - This was a swarm drone based project that was developed as a part of eYantra Robotics Competition. Here we had to control two drones simultaneously to perform an optimized pick and place maneuvers in an agriculture field. - *ROS, Gazebo, python, C++, PlotJuggler* [\[Video\]](#)
- **Hexacopter** - Working on it. It is to be used as an autonomous delivery drone. Have a plan to implement ROS for autonomous maneuvers. - *F3 Deluxe, flysky, Brushless DC, Cleanflight* [\[Video\]](#)
- **Wireless Human Interface Device Motion Controller V2.0** - Its a motion joystick for AR,VR, simulation engines and games. It was tested with both stm32 and esp32 boards - *ESP32, MPU, Analog Sticks, C++* [\[Video\]](#)
- **botAlive RoboDog** - It is an autonomous quadruped robot in the making - *Jetson Nano, Lidar, Nucleo-L152RE, Servo Motors* [\[Video\]](#)
- **Sanitizing Line Follower Bot with live Video Streaming** - Made this during the start of COVID 19 pandemic for serving necessary items to the needy - *C++, Arduino, webcam, sensors* [\[Image\]](#)
- **Bluetooth Controlled Spy Bot** - It is a Bluetooth controlled robot with camera in front of it. It can be used for spying an area remotely- *C++, Arduino, Camera, HC05* [\[Image\]](#)

VOLUNTEERING EXPERIENCES

- [eYantra 2021-22](#) (National Level Robotics Competition) 2021-22
- eYantra Robotics Competition IIT Bombay Team Lead
- [Google Developer Students Club IEM](#) 2020-21
- was the Working Team Member of DSC IEM in hardware department
- Took one session on Arduino
- [IEEE IEM Student Branch](#) 2020-21
- was the Database Team Lead of IEEE IEM SB
- Worked on data tracking during the events