

Sounder Rajendran

Portfolio: www.sounder.world | sounder.dev@gmail.com | github.com/RSounder | linkedin.com/in/sounder-dev | (+91) 90809 10468

EDUCATION	Coimbatore Institute of Technology – Coimbatore, India <i>Bachelor of Electrical and Electronics Engineering, CGPA: 8.23/10</i>	June 2019
	G.D. Matric Hr. Sec. School – Coimbatore, India <i>Higher Secondary School, Percentage: 96.6%</i>	May 2015
	Nirmala Matha MHSS – Coimbatore, India <i>Secondary School, Percentage: 97.4%</i>	May 2013
SKILLS	Programming Languages: MATLAB, Python, C/C++, JavaScript, Java, Verilog HDL Software: Mathematica, LabVIEW, Simulink, SolidWorks, Multisim Robot Operating System (ROS), OpenCV, IoT, Machine Learning, Deep Learning, UI dev (Angular, Flutter)	
PROFESSIONAL EXPERIENCE	Robert Bosch Engineering & Business Solutions – Coimbatore, India <i>HMI & IoT Engineer – Human Machine Interface Center of Excellence</i>	Sept 2019 – Present
	<ul style="list-style-type: none">• R&D of patent pending closed loop automated testing of voice and extended reality HMI devices (NLP, Python)• R&D of proprietary cyber security threat mitigation layer in firmware of Bosch IoT Gateways (RNN, Python, C++)• Developed end-to-end Industry 4.0 Cyber Physical Systems monitoring & control tool (Python/Angular)• Designed & Integrated IoT system for remote accessibility & control of HMI test framework (LabVIEW/Bosch IoT Suite)	
	Tata Consultancy Services – Chennai, India <i>Engineering Intern – Innovation Team, United Airlines Division</i>	June 2018 – Sept 2018
	<ul style="list-style-type: none">• Designed and developed ACERS: Autonomous Customer Engagement Robot System (Semi-humanoid robot swarm) Built robot swarm monitoring & control tool to enable programing and testing of ACERS system (NodeJS and C++)	
	Siemens Ltd. – Coimbatore, India <i>IoT Intern</i>	Jan 2018 – June 2018
	<ul style="list-style-type: none">• Contributed to firmware development & sensor library development of SIMATIC IOT2020 Gateway (Embedded C)• Developed communication protocol interface tool for SIMATIC IOT2020 Gateway's inbuilt RS232, USB & Ethernet connectivity and external BLE, MQTT and LoRaWAN connectivity and evaluated their performance (Python)• Developed drivers to interface Siemens IoT Gateways to Siemens Cloud MindSphere (C++)	
NOTABLE PROJECTS	NxtStep Robotics Startup – Coimbatore, India <i>Co-founder & Chief Operations Officer</i>	Aug 2016 – Jan 2018
	<ul style="list-style-type: none">• Designed and developed Compact Floor Cleaner Robot. Used 2D mapping using encoders, SolidWorks & Arduino• Designed Guided Fire Extinguisher Robot – Second Place at Anokha National Hackathon• Managed a team of 10 for design & fabrication of Portable Urban Mobility Vehicle and generic 6DoF robotic arm.	
	Closed Loop Testing of Voice & Extended Reality Systems – Robert Bosch, India <i>Patent Pending</i>	May 2021 – Present
	<ul style="list-style-type: none">• Imitating a human's voice commands and gesture control as inputs to test limitations of HMI devices.• Data Processing, NLP (Text-to-Speech, Speech-to-Text), OpenCV, Task automation & report generation using python.	
	Autonomous Customer Engagement Robot System (ACERS) – TCS Innovation team	June 2018 – Sept 2018
	<ul style="list-style-type: none">• Mobile Semi-humanoid robots to have act as Airport attendants; LSTM for voice conversations with humans• Gesture and voice triggered to initiate service request; used ROS 3D perception and navigation stack, Python, Raspberry Pi and TM4C123GXL MCU and D435 Intel Real Sense Depth Camera for 3D point cloud.	
COURSES	UAV-AGV Symbiotic Pair for Solar Farm Maintenance – Semester V & VI, CIT	Sept 2017 – Jan 2018
	<ul style="list-style-type: none">• Autonomous quadcopter and autonomous ground vehicle share tasks to traverse circuitous path.• Aerial mapping, OpenCV and Path planning done for navigation. 2.4 GHz for communication.	
	Modern Robotics Specialization (Northwestern University); Machine Learning (Stanford Online); Neural Networks & Deep Learning (DeepLearning.AI); Data Science (IBM)	
AWARDS	III Place, GSEA 18 (Global Student Entrepreneur Awards); Best Project Award, Confederation of Indian Industries 2019; Best Student Entrepreneur, CIT 2019; Outstanding Project Award, Rotaract South East Asia Conference 2021;	
LEADERSHIP	<u>Innovation Champion</u> of EHG, Bosch; <u>Chairman</u> , District Priority Projects, Rotaract Club of Cbe Spectrum (2020 - 22); <u>Project Chairman</u> , SEED 2021; <u>Treasurer</u> of EEE Association, CIT (2019); www.sounder.world/projects www.sounder.world/awards www.sounder.world/leader	