Srijal Poojari

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EDUCATION

SARDAR PATEL INSTITUTE OF TECHNOLOGY
BE in Electronics
University of Mumbai
May 2019 | Mumbai, India
CGPA: 8.49 / 10

MVM JUNIOR COLLEGE
Higher Secondary Certificate
Maharashtra State Board
Feb 2015 | Mumbai, India
540/650 (83.08%)

ST. XAVIER'S HIGH SCHOOL
Secondary School Certificate
Maharashtra State Board
Mar 2013 | Mumbai, India
501/550 (91.09%)

SKILLS

PROGRAMMING
Proficient:
Python • C • C++
Intermediate:
MATLAB • LaTeX
Familiar:
C# • Lua • JavaScript

HARDWARE
Development Boards and SoCs:
Arduino AVR, ARM • ATmega
ESP32 • ESP8266 • Microchip dsPIC
C2000 DSP • Raspberry Pi • MSP430
Nvidia Jetson TX2, Nano
Particle Photon • Spartan V FPGA
Design and Development:
PCB Design • Power PCB Layouts
SMD Soldering (QFP, QFN) • 3D Printing

SOFTWARE
OpenCV • ROS • VRep
EAGLE • Fusion 360 • Unity

OTHER INTERESTS
RC Planes • Aviation • Electronics Salvage
Swimming • Reading • Video Games

PROJECTS AND COMPETITIONS

PROJECT ATLAS | BE final year project | Drishti Works, Mumbai
Jul '18 - Apr '19
- Build of a tethered multirotor with an AUW of 10Kgs.
- Designed 140V to 32V@20A step-down converters in a small form-factor for increasing the altitude capabilities of the system. [Publications pending]

PROJECT AURUS | Drishti Works, Mumbai
4 Jun – 15 Jul '18
- Worked on the development of AURUS, a beach cleaning robot.
- Involved in a diverse range of work including programming for the various sensors and functionality, developing the IMU system (MPU6050, MPU9250), the power distribution system, wiring, and several custom PCBs for the robot.
- Created ROS nodes for communication between the controller and Nvidia Jetson and greatly improved system reliability in the software aspect as well.

HOLOLENS EXPERIENCE CENTER | Fractal Analytics, Mumbai
27 Nov - 26 Dec '17
- Developed applications on the Microsoft HoloLens Mixed Reality(MR) headsets, in a group of 2.
- Conventional statistical results of Share of Shelf, Share of Sight and Compliance for a supermarket shelf are presented in the form of holograms.
- Learned app development in Unity using C#, AR and MR concepts.

MODULAR ROBOTS | IIT Bombay
22 May – 7 Jul '17
- Internship to create self-reconfigurable robotic modules, in a group of 2.
- 4 robotics modules were created which each consisted of an Arduino Nano, 5 servo motors, bluetooth, RF modules for wireless communication and LiPo batteries for power.
- Created a Virtual Dtto interface on VRep with bluetooth control, sensors and behaviour identical to the actual robot.
- Also involved designing the 3D CAD models of the modules on Fusion 360, Autodesk Inventor and 3D printing the designs.

EYANTRA ROBOTICS COMPETITON | IIT Bombay
Nov '16 - Apr '17
- **1st out of 162 teams** in the national level competition.
- Planned and implemented the algorithms for motion planning and used OpenCV with Python for Image Processing.
- Played the role of team leader in a team of 4.

CYKLO | SPIT, Mumbai
Nov '15 - May '17
- CYKLO is a point-to-point, peer-to-peer cycle sharing service, started in 2015 at Sardar Patel Institute of Technology(SPIT), Mumbai, with me as a core part of the team.
- Designed, built and programmed several hardware prototypes for the automated cycle locking system, including the locking mechanism, electronic controller and network interface.
- **1st Prize** in InterThrone 2017, an IoT focused contest under the Public Transport category with an award of **INR 300,000.**

OTHER WORK

ROOM OCCUPANCY INDICATING SYSTEM | BE Sem VI project

Feb - Apr 2018

- A network of small wireless sensors to detect human presence in a room, across multiple such rooms. Group of 2.
- Involved a strong focus on wireless networking, low power design, PCB design, 3D modelling and printing.
- **3rd Prize** in Innovatron'18, an inter-college project presentation competition held at SPIT, Mumbai.

3D INDOOR MAPPING | BE Sem V project

Aug - Oct 2017

- Used the Microsoft Kinect depth sensor and a Raspberry Pi running the Robot Operating System (ROS) to create a wireless 3D mapping setup.

THE COMPANION IC | Arduino Contest, Instructables

Jan 2016

- The Companion IC is a lab bench tool for quick testing of electronic components with an aesthetic appeal to it.
- **2nd out of 459 entries** from various parts of the world in the Arduino All-The-Things Contest on Instructables.

CIRCUIT TROUBLESHOOTING COMPETITION | SPIT, Mumbai

29 Sep - 17 Oct '16

- **1st Prize** in the departmental competition in which students were expected to troubleshoot and rectify faulty electronic circuits; first in simulation on TINA-TI software and later on a breadboard.

TEACHING AND ROLES OF RESPONSIBILITY

2019	IEEE Workshop on Adding WiFi to your projects using ESP8266 and MQTT	SPIT, Mumbai
2019	Teaching Assistantship: Robotic Vision	SPIT, Mumbai
2018	Departmental Circuit Troubleshooting Competition	SPIT, Mumbai
2018	IEEE Workshop on Introduction to Microcontrollers, Sensors and Arduino	SPIT, Mumbai
2018	Workshop on Introduction to Embedded Systems Design	SPIT, Mumbai
2016	Robocon Workshop on PCB making and basics of a robotic system	SPIT, Mumbai

TRAINING

ROBOTICS: FUNDAMENTALS | UPennX, edX

Oct 2018

- Kinematics and Mathematical Foundations for describing robotic arms and mobile robots using MATLAB.

COMPUTATION STRUCTURES | MITx, edX

Sep '16 - May '17

- Understanding the principles and techniques used in the design of digital and computer systems.
- Designed a 32-bit 'Beta' processor, ground up, from basic logic gates on the Jade simulator.

MSP-FPGA HARDWARE AND SOFTWARE CO-DESIGN | SPIT, Mumbai

Sep 2016

- Workshop on interfacing of MSP430 with an FPGA to enable parallel processing of general purpose calculations on MSP and hardware optimized tasks on FPGA for faster throughput.

EMBEDDED SYSTEMS DESIGN | SPIT, Mumbai

Jun 2016

- Workshop on introduction to various technologies in Embedded Systems with hands-on practice on development boards including Atmel AVR, ARM, Texas Instruments MSP and DSP.

ROBOCAMP(SR.) BY THINKLABS | IIT Bombay

Dec 2010

- Basic STEM learning for school kids for an early start on autonomous robots and their control using graphical block-programming.
- Interfaced sensors like touch, IR and control of DC motor for robot actuation was learnt on the iPitara Robot by ThinkLABS. Participated in TRICKS 2010, IIT Bombay.