

SARATH M

Machine Learning Engineer

@ sarathm00@gmail.com
📧 SarathM1

+91 9496354518

📍 Saranya House, North Paravoor P.O, 683513

📍 Kerala, India

EXPERIENCE

Specialist

Tata Elxsi

📅 July 2016 – Ongoing

📍 Technopark, Trivandrum

Embedded System Engineer

Unisync Technologies

📅 Jan 2015 – July 2016

📍 Vyttila, Ernakulam

MOST PROUD OF



My Professional Achievement

Awarded the highest rating "Outstanding" in three consecutive appraisal cycles in Tata Elxsi



My Academic Achievement

Final year academic project "Hexapod" was selected for the finals in State level competition



Martial Arts

Black Belt holder in Shito-Ryu style of Karate

EDUCATION

Course in Embedded Systems

Vector India Institute, Bangalore, Karnataka

📅 2014

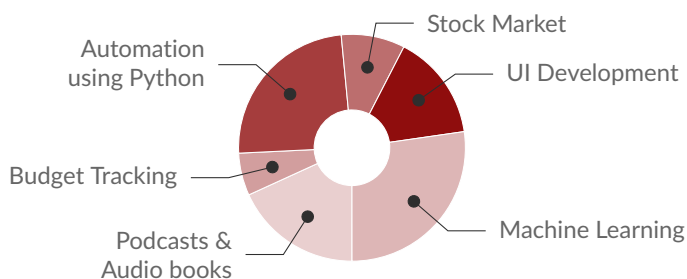
B.Tech (ECE)

Govt. College of Engineering Cherthala,

Cochin University Of Science and Technology, Kerala

📅 2010 - 2014

INTERESTS



MY LIFE PHILOSOPHY

"Quality is not an act; it is a habit."

STRENGTHS

Team Player

Passionate Programmer

Fast Learner

Hard-working

Eye for detail

SKILLS

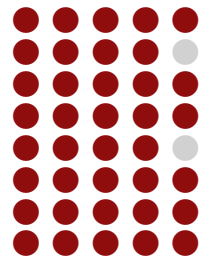
Machine Learning Frameworks

Tensorflow
Scikit-learn
NLTK



Visualisation & Data Processing

Pandas
Numpy
Flask
Bokeh
Plotly
Grafana
Twitter Bootstrap
PyQt4, Qt Designer



Distributed Systems

ROS
Paho MQTT
Redis
Apache Kafka



Test Automation & CI

Jenkins
Robot Framework



Devops

Docker
Ansible



LANGUAGES

English
Malayalam
Hindi



PROJECTS

ADAS features for Autonomous Vehicle project

The objective of the project is to develop an L2 Autonomous Car

- Development of Object detection system using Convolutional Neural Networks
 - Faster-RCNN, Yolo V2, Single Shot Detectors
 - Development of Drivable Area using Image Segmentation
 - SegNet, Mask R-CNN
 - Design and development of Distributed System using Robotic Operating System (ROS)
 - Testing and deployment of the ML model in NVidia Jetson TX1 platform
 - Object detection in 3D Point cloud data using PointNet
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Lidargen

The objective of the project was to create a tool that would simulate the actual output from a LIDAR sensor. The tool takes three dimensional CAD objects as input and generates corresponding pointcloud.

- The User is given the freedom to place and orient the multiple meshes
 - Used in the optimised placement of multiple Lidars to reduce blind spot
 - To mathematical model the behavior of Lidar and simulate the same using Ray Casting.
 - A UI capable of 3D visualization was created using Qt and ROS RViz
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Intelligent Battery Management System

The objective of the project is to estimate State of Health (SOH) and State of Charge (SOC) of a Lithium Ion battery using Machine Learning

- Implemented Neural Network Regression model as a benchmark
 - Implemented LSTM models to improve upon the bencharm results
 - Supported in development of 'Digital Twin' of a cell with ML models mimicing the electrochemical characteristics
 - Developed a POC on Anomaly detection algorithm to demonstrate online-learning capabilities of the framework
 - Create a Data dashboard for monitoring sensor data in real-time using Flask and Bokeh
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UAV Based Driver View Enhancement

- To develop a proof of concept, using a Drone to enhance the view of the Driver and cover blind spots for a larger area around the vehicle
 - Designing a State Machine to control the Drone, Create a web application as a User interface using Python as a back-end
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Automated Testing and CI Framework

A Test automation framework was developed with the following key features

- Enables rapid and Automated testing
- The framework supports both SIL and HIL testing
- Continuous Integration using Jenkins, Ansible and Robot framework
- Centralized Logging using Fluentd, Elasticsearch and Kibana
- Containerization using Docker