SARATH M

Machine Learning Engineer

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✉ Saranya House, North Paravoor P.O, 683513 ⚲ Kerala, India

EXPERIENCE

Specialist
Tata Elxsi

📅 July 2016 – 2021   ⚲ Technopark, Trivandrum

Embedded System Engineer
Unisync Technologies

📅 Jan 2015 – July 2016   ⚲ Vyttila, Ernakulam

MOST PROUD OF

🏆 **My Professional Achievement**
- Awarded "Outstanding" in three consecutive years for contributions in Autonomous Car Platform
- Latest Project nominated for "Project Excelence Award"

 Github: github.com/sarathm1
100+ side projects in personal Github account from 2015-2021

🎓 **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
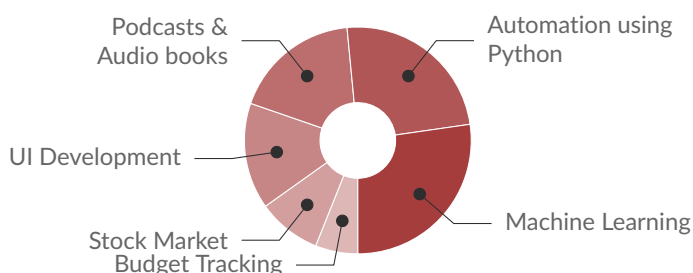**Vector India Institute, Bangalore, Karnataka**

📅 2014

B.Tech (ECE)
**Govt. College of Engineering Cherthala,
Cochin University Of Science and Technology, Kerala**

📅 2010 - 2014

INTERESTS

Podcasts & Audio books · Automation using Python · UI Development · Stock Market · Budget Tracking · Machine Learning

SKILLS

- **Machine Learning Frameworks**

Tensorflow ●●●●○
Scikit-learn ●●●●○
NLTK ●●●○○
Rapid Miner ●●●●○

- **Visualization & Data Processing**

Pandas ●●●●●
Numpy ●●●●○
Bokeh ●●●●○
Plotly ●●●●○
Grafana ●●●●●
Flask ●●●●●
PyQt4, Qt Designer ●●●●●
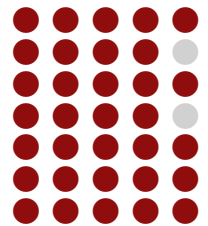
- **MLOps**

Airflow ●●●●○
Docker ●●●●○
MLFlow ●●●○○
Weights and Biases ●●●○○
Ansible ●●●●○

- **Distributed Systems**

ROS ●●●●○
Paho MQTT ●●●●●
Redis ●●●●○
Apache Kafka ●●●○○
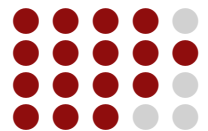
LANGUAGES

English ●●●●●
Malayalam ●●●●●
Hindi ●●●○○

PROJECTS

ADAS features for Autonomous Vehicle project
   👤 Role: Module Owner

Responsibilities:

- 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
- Use Deep learning to develop ADAS features
- 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 using VoxelNet DL model for Lidar PointCloud data

Lidargen
   👤 Role: Project Lead

Responsibilities:

- Develop a tool to emulate LIDAR using mathematical model
- Generates synthetic pointcloud that can be used to train Deep Learning models
- Supports multiple Lidars and the capability of Sensor Fusion
- Makes it easier to visualize the blind spots in a multi-sensor setup
- Developed GPU accelerated 3D visualization using Qt and ROS RViz

Natural Language Processing for JIRA ticket Analytics
   👤 Role: Project Lead

Responsibilities:

- Data cleaning and Exploratory Data Analysis using NLTK
  - Remove stop words and Stemming the corpus
  - Named Entity Recognition using Spacy
  - Visualizations using Word Cloud
- Search and filter feature using BERT model and Elasticsearch
  - Converting each ticket into fixed length vector using BERT
  - Save the vectors into Elasticsearch
  - Use Cosine Similarity to compare and filter tickets

Intelligent Battery Management System
   👤 Role: Module Owner

Responsibilities:

- Created a Tool and scripts for simplifying Regression Analysis
- Implemented time-series forecasting models to improve upon the benchmark results
- Supported in development of 'Digital Twin' of a cell with ML models mimicking 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

Automated Testing and CI Framework
   👤 Role: Project Lead

Responsibilities:

- Develop a framework that enables rapid and Automated testing
- The framework should support both SIL and HIL testing