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 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

⬡ **Github**
100+ side projects in personal Github account from 2015-2021

EDUCATION

Course in Embedded Systems
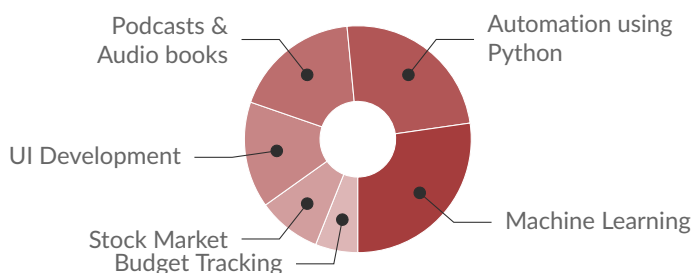**Vector India Institute, Bangalore, Karnataka**

📅 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
- Machine Learning
- Stock Market
- Budget Tracking

MY LIFE PHILOSOPHY

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

STRENGTHS

Team Player   Passionate Programmer   Fast Learner   Hard-working   Eye for detail
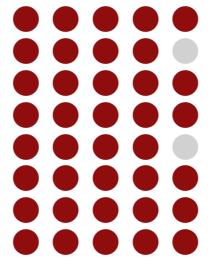
SKILLS

- **Machine Learning Frameworks**

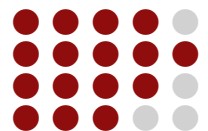|	
Tensorflow	●●●●○
Scikit-learn	●●●●●
NLTK	●●●○○

- **Visualization & 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
👤 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
- 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

Lidargen
👤 Role: Project Lead

Responsibilities:

- Develop a tool to emulate LIDAR using mathematical model
- Use ray-casting to generate point cloud data
- Developed 3D visualization using Qt and ROS RViz

Intelligent Battery Management System
👤 Role: Module Owner

Responsibilities:

- Implemented Neural Network Regression model as a benchmark
- Implemented LSTM 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

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

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