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

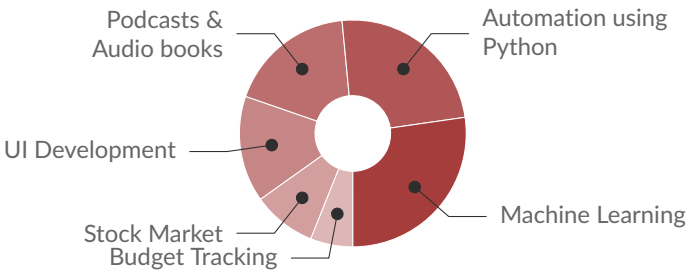
Martial Arts
Black Belt holder in Shito-Ryu style of Karate

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



MY LIFE PHILOSOPHY

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

STRENGTHS

Team Player | Passionate Programmer | Fast Learner | Hard-working

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 in Lidar data using VoxelNet

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