Vaishak Melarcode Kallampad

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Education

- **San Jose State University**, San Jose, CA   August 2021 – May 2023
  Masters in Software Engineering
- **Government Rajiv Gandhi Institute of Technology,** Kerala, India   August 2014 – June 2018
  Bachelor of Technology in Electronics & Communication Engineering

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Work Experience

Boson Motors Inc, Livermore, United States   June 2022 – Aug 2022
Software Engineering Intern – Data Engineer

- Set up the Data Pipeline to collect and store data from CAN bus and ROS topics into InfluxDB automatically.
- Created ROS nodes both Subscriber and Publisher to analyze the ROS topics from the vehicle and control it remotely.
- Tested and improved the autopilot feature using Grafana to visualize the data, detect anomalies and create real-time alerts.

Tata Consultancy Services Ltd, Bangalore, India   Nov 2018 – Jun 2021
Software Engineer

- Provided design support to railway client in the verification of their Automatic Train Control (ATC) system data.
- Automated safety critical testing using Python scripts and thereby reduced the man-days required for the job.
- Performed analysis on data to optimize the design and plan of metro track layouts and reducing the total costs encountered.

Certifications

- Machine Learning - authorized by Stanford University from Coursera

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Skills

Backend: Python, C++, Java, PHP; **Frontend:** HTML, CSS, JavaScript ; **Database:** MySQL, Microsoft SQL, PostgreSQL, InfluxDB, MongoDB **;** **Frameworks and Libraries:** NodeJS, ExpressJS, REST API, JUnit, jQuery**,** Microservices, Agile, Scrum, Docker**;** **Operating Systems:** Linux, ROS ; **Cloud:** AWS **;** **Machine Learning:** Traditional ML algorithms, NLP, TensorFlow, PyTorch, OpenCV, YOLO, YOLACT, GANs, Transformers.

Coursework

- Fall 2021 – Enterprise Software Platforms, Operating Systems, Object Oriented Programming (OOPs), Data Structures and Algorithms.
- Spring 2022 – Database Systems, Data Mining, Machine Learning, Cloud Technologies.
- Fall 2022 – Deep Learning, Software Systems Engineering – Design Patterns
- Spring 2023 – Enterprise Distributed Systems, Reinforcement Learning

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Academic Projects

- **Barks & Meows** : An interactive website for a café exclusively for pet lovers. Functionalities include Signup/Login, displaying product details using APIs, tracking visited pages using Cookies.
- **Ted Talk Recommender** : Created a recommender system using Ted Talk transcripts and related tags for the talk. Predicted and displayed as recommendation the five most similar talks based on a given Ted talk.
- **Airport Management System** : Developed a MERN stack application for flight passengers, airport, and airline employees. The services included scheduling and displaying upcoming flights, assigning terminal/gates, and baggage carousel and managing conflicting assignments.
- **Autonomous Vehicle Rental System**: A ride-hailing platform for Autonomous Vehicles. Simulated the autonomous ride using CARLA. Web application was created in MERN stack and deployed on AWS-EC2 with Elastic Load Balancer.
- **Music Artist Identification** : Build a deep learning model to identify song artist using MFCC features. Created own training data from scratch and tried different architectures like ANN, CNN and RNN(LSTM) models.
- **Dog Breed Identifier** : Deep Learning model to identify the 133 different breeds of dogs in real-time. Has been built using transfer learning on 4 different models - VGG19, Resnet50, InceptionV3 and Xception.
- **Credit Card Reader** : A java application that handles and processes different types of credit cards. Used various design patterns to efficiently validate and process the card inputs from different file formats including csv, xml and json.