

Vaishak Melarcode Kallampad

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EDUCATION

- San Jose State University, San Jose, CA** **Aug 2021 – Dec 2023**
Masters , Software Engineering
Relevant Coursework - Enterprise Software Platforms, Operating Systems, Object Oriented Programming (OOPs), Database Systems, Data Mining, Machine Learning, Cloud Technologies , Deep Learning, Software Systems Engineering – Design Patterns , Enterprise Distributed Systems, Reinforcement Learning
- Government Rajiv Gandhi Institute of Technology, Kerala, India** **Aug 2014 – Jun 2018**
Bachelor of Technology in Electronics & Communication Engineering
Relevant Coursework – Digital Image Processing, Digital Communication Techniques, Neural Networks, Computer Architecture and Processing

WORK EXPERIENCE

- Boson Motors Inc, Livermore, United States** **Jun 2022 – Aug 2022**
Software Engineering Intern – Data Engineer
 - Set up Data Pipeline and ETL infrastructure to collect and store ~2gb data/day from CAN bus and ROS topics into InfluxDB automatically.
 - Created scripts for compressing 2-3 GB data to ~10-50 MB csv files for regular backup purpose.
 - Developed Subscriber and Publisher model to analyze ROS topics from vehicle and automatically stop the vehicle on deviating more than 5m from its prescribed path in autonomous mode.
 - Tested and improved autopilot feature using Grafana to visualize data, detect anomalies and devise real-time alerts.
- Tata Consultancy Services Ltd, Bangalore, India** **Nov 2018 – Jun 2021**
Software Engineer
 - Designed and tested signaling systems particularly Automatic Train Control systems (ATC) for metro rails.
 - Automated safety critical tasks deploying Python scripts and thereby reduced ~5 man-days work per project .
 - Performed data analysis to optimize design of metro track layouts and cut down costs encountered by ~23%.

CERTIFICATIONS

- Machine Learning** - authorized by Stanford University from Coursera

SKILLS

- Backend:** Python , C++ , Java , PHP , NodeJS , ExpressJS
- Frontend:** HTML , CSS, JavaScript
- Database:** MySQL, Microsoft SQL, PostgreSQL , InfluxDB, MongoDB ;
- Frameworks/Tools:** REST API, Junit, jQuery, Microservices, Agile, Scrum, Docker, Linux, ROS, AWS, Hadoop ;
- Artificial Intelligence:** Regression, Decision trees, SVM, KNN, K-Means Clustering, NLP, TensorFlow, PyTorch, OpenCV, YOLO, YOLACT, GANs, Transformers.

ACADEMIC PROJECTS

- Accent Attenuation** **Aug 2022 – Jan 2023**
Using various deep learning frameworks and speech processing techniques to convert accented english speech samples to non-accent speech. The experiments focus on converting Asian accented english speech to native english speaking accents.
- Dog Breed Identifier** **Aug 2022 – Dec 2022**
Deep Learning model to identify 133 different breeds of dogs in real-time. Has been built using transfer learning on 4 different models - VGG19, Resnet50, InceptionV3 and Xception.
- Spartan Quality Assurance Tool** **Feb 2022 – May 2022**
A test case and bug management toolkit revolves around streamlining the entire process of testing, primarily for managers, developers, test leads and testers. Designed the database for this app.
- Ted Talk Recommender** **Feb 2022 – May 2022**
Designed a recommender system with Ted Talk transcripts and related tags for ted talk. Predicted and displayed as recommendation 5 most similar talks based on a given Ted talk.
- Autonomous Vehicle Rental System** **Feb 2022 – May 2022**
A ride-hailing platform for Autonomous Vehicles. Simulated autonomous ride using CARLA. Web application was created using the MERN stack and deployed on AWS-EC2 with Elastic Load Balancer.
- Music Artist Identification** **Feb 2022 – May 2022**
Build a deep learning model to identify song artists using MFCC features. Created own training data from scratch and tried different architectures - ANN, CNN and RNN(LSTM) models.
- Barks & Meows** **Aug 2021 – Dec 2021**
An interactive website for a cafe exclusively for pet lovers. Microservices include Signup/Login, advertising product details using APIs, tracking recently visited products and most visited products using Cookies,and adding review and ratings.