
PROFESSIONAL EXPERIENCE

- SOFTWARE ENGINEER (MACHINE LEARNING)**, BSQUARE CORPORATION, WA. [MAY 2017 – PRESENT]
- Designed and led the architecture for next generation IoT Platform capable of multitenancy in AWS.
 - Built a system to crop, rotate and resize images of chocolate bars using OpenCV and classify images using deep learning with Tensorflow and deployed in cloud and IoT Edge(vending machines) (Accuracy:88%). Optimized the model utilizing image histograms and custom one-class SVM algorithm to reach a cross validation accuracy of 95.07%.
 - Built a real-time data streaming pipeline and state model workflow engine using business rules engine and reduced the end-to-end latency from 12 seconds to 400ms.
 - Designed and developed serverless ETL pipeline using AWS lambda, Logstash and Elasticsearch for handling data, and customized Grafana to visualize it in near real-time.
 - Developed and deployed machine learning pipeline in both serverless architecture and microservices with secure REST API interfaces using AWS lambda, ECS, Cognito.
 - Developed a big data pipeline tool using Spark/Scala and RESTful microservices to do preprocessing and data augmentation.
- ACADEMIC DEAN / COURSE INSTRUCTOR**, SCHOOL OF AI (NON-PROFIT ORGANIZATION) [MAY 2018 – PRESENT]
- Move 37 - Deep reinforcement learning course, online (theschool.ai).
 - Data Lit - Data science refresher course, online.
 - Technical and architectural advisor for theschool.ai/consulting.
- RESEARCH ASSISTANT**, UNIVERSITY OF WASHINGTON, WA. [SEP 2016 – MAY 2017]
- Designed and implemented an optimal algorithm to spot the traffic stop sign and traffic signal along with the direction on the road network graph using graph database and Ada-Boost reinforcement learning algorithm.
- MARINE SYSTEMS ENGINEER**, D'AMICO SOCIETA DI NAVIGAZIONE S.P.A, ITALY. [FEB 2010 – SEP 2014]
- Scaled my college capstone project of collecting data from engine sensors and stored the data using on-premises data store to provide effective visualization.
 - Designed, developed and deployed a remote monitoring software application for ships using Java backend, D3.js visualizations and MySQL db.

PERSONAL PROJECTS

- Implemented a system that controls IR-RF remote switches by an Android app and Alexa.
- Designed an intelligent system that can shut off main gas lines using a mobile app.
- Designed and developed a system that can ingest resumes and get name, phone number and email address using NER from Stanford NLP toolkit and retrained the model using spacy libraries.
- Working on a video analysis application that can detect masked faces and alert when timer expires.

TECHNICAL SKILLS

Programming Languages	Java, Python, Scala, JavaScript
Datastore	Elasticsearch, Neo4j Graph DB, MongoDB, Redis, MySQL, PostgreSQL, Dynamo DB.
Frame Works	Spark, Flask, Django, Spring Boot, Cuda, Apache Hadoop stack, OpenCV.
Machine learning	Scikit-learn, Tensorflow, Pytorch, Keras, H2O, Sparkling water, MLlib, MLflow, Pandas, Numpy, Scipy, Bokeh.
Cloud	AWS(Expert), Azure(Proficient), GCP(Beginner).

EDUCATION

Master of Science in Computer Science - 2017
University of Washington, WA, USA. GPA: 3.9/4

Bachelor of Science in Marine Engineering - 2009
CMC, TN, India. CGPA: 8.1/10