

JEROME FRANCIS

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EDUCATION

T.K.M. College of Engineering, Kollam

Bachelor of Technology, B.Tech (Hons.)

Department of Computer Science and Engineering(CSE)

August 2016 - 2020

CGPA : 9.3/10

Montfort Senior Secondary School, Ashok Vihar (New Delhi)

12th Higher Secondary Examination (Science), CBSE

10th Secondary Examination, CBSE

March 2016

Overall Percentage: 95

CGPA : 9.6/10

EXPERIENCE

Ignitarium Technology Solutions , Kochi

June - July 2019

Machine Learning Intern

- Developed a new feature for the measurement of gaps of railway tracks. This is an addition to the existing **Rail Defect Detection** product for detecting faulty gaps on the fly.
- Researched and developed deep learning models for better railway track detection in different terrains.
- Involved in data curation and annotation tasks. [Demo]

Project Advisor: Jerin Antony, Tech Lead-AI/ML ,Ignitarium

Radix Info Solutions , New Delhi

July 2018

Summer ML Intern

- Learned Machine Learning and Deep learning algorithms and implemented them using Tensorflow and Keras.

PROJECTS

Dynamic Music visualisation Ongoing

Designing a pipeline for visualising music through shapes and colors by generating a correlation effect similar to synesthesia.

Improving IVIM Imaging technique April 2020

In my final-year research project, I worked on **MRI Imaging** particularly the **IVIM technique**, and worked on different ways to improve it. My job in the team was to focus on the Image Segmentation part where, different methods were studied to identify tumor accurately and robustly in the MRI scans.

Project Advisor : Dr. Ansamma John, HOD (CSE), TKMCE

Taxi task using Q-learning Sep 2019

Implemented the taxi task using **Temporal-difference technique of Q-learning**, where the task is to pickup and drop the passenger from source to destination by using taxi as an agent. Gym's taxi-task environment was used. [Link]

Video based RailGap measurement July 2019

Developed a feature to measure rail gaps of rail tracks present in video frames using **Semantic segmentation** and **Image Processing**. This measurement is used to detect gaps which exceed a threshold value (faulty gaps). Three modes of measurement namely, center-to-center mode, outer-rail to outer-rail mode and inner-rail to inner-rail mode of railway tracks. This project was a part of internship done in July 2019. [Demo]

Smart Waste Management Jan 2019

An Iot based smart waste management system using smart bins to provide waste-management services with optimal amount of time and cost required for the same using machine learning model. Selected for final round of TEKCON'19 contest. [Link]

Academic Project : RailSathi Oct - Dec 2018

Worked in a 3-person team to design a railways booking app as a part of the design project. This application aims to provide booking tickets for connecting trains if direct trains are not possible.

INVOLVEMENT

- **Student Mentor - AI/ML** Taught basics concepts of ML and AI in SIG-TKMCE club.
- **Research Team Member** Worked on drone models in TKMCE Robotics Club.
- **Volunteer** Helped in conducting the final round of IEEE PES quiz, 2016.
- Qualified for final round in Microsoft AI Challenge, 2018
- Qualified for final round of IdeaFest 2019 for the product 'monitor24'
- Qualified for final round of TEKCON-2019, a state-level expo

MOOCS AND CERTIFICATIONS

CS285 - Reinforcement Learning, UC Berkley Ongoing

Learning about the fundamental theoretical concepts of RL and its applications and implementing the concepts which is present in my Github repo **Reinforcement Learning** [Link]

Game Theory by Stanford University on **Coursera**

Helped me understand how to structure and analyze different decisions and strategies in simple games. This course covered Nash Equilibrium, Perfect and Imperfect Information Games, Dominant and Trigger Strategies, etc.

Machine Learning by Stanford University on **Coursera**

Sequence and Models by deeplearning.ai on **Coursera**

Architecting with Google Compute Engine Specialization by **Coursera**

Web Development course by UPES ACM chapter

TECHNICAL SKILLS

Languages	Python, C++, C
Tools/Libraries	Keras, Numpy, Pandas, Tensorflow, Pytorch, OpenCV, Scikit-Learn
Web	Javascript, HTML, CSS