Karthikeyan Mohanraj

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Academic Details

Year	Degree	Institute	CGPA/Marks(%)
2023	M.Tech Artificial Intelligence & Machine Learning(2 year)	IIT Hyderabad	8.24
2020	B.Tech Mechanical Engineering	SASTRA Deemed University	8.02
2016	XII (CBSE)	Modern Senior Secondary School	91.8%
2014	X (CBSE)	Modern Senior Secondary School	9.2

Work Experience

Programmer Analyst Trainee at Cognizant: 10 Months

- Provided live production application support for a leading global pharma firm.
- Along with this, my roles were Client-side interaction, Micro team management, and delivering process status.

Projects

Machine learning for braking system: *Thesis*

- The task is to predict parameters using ML and DL techniques.
- The predicted parameters will be passed into the control unit to decide on the braking condition.
- The model will be tested in various road conditions.

Segmenter-Transformer for semantic segmentation: *Computer Vision*

- Implemented the state-of-the-art image segmentation model.
- Vision transformer with mask decoder was used.
- Archived MIoU score of 54.08.

Machine Learning Hackathon: Driver Fault Classification -Is the driver at fault?: *Machine Learning*

- It is a classification problem, the task is to classify whether the accident happened because of the driver's fault or not.
- Random Forest and XGBoost models have been used along with various hyperparameter tuning methods - Gridsearch, cross-validation, and pruning.
- Achieved an accuracy of 86.48% on the test set.

Survey on Non-Alcoholic Sanitizer Product: *Statistics*

- It is a statistical experiment on the use of nonalcoholic sanitizes in houses.
- The data is collected using a random sampling technique and various data visualization methods like boxplots, bar graphs, histograms, violin plots, etc.
- Used statistical methods like the central limit theorem and applied hypothesis testing to check the variation of features and make conclusions.

Co-curricular

- **Finalist** in source code competition held during Daksh-2017. B.Tech

Publication

Experimental Study of Impact of the Rear Wheel in Three Wheeled Triangular Structured Omnidirectional Robot- Co-authored and presented the research paper in 4th international conference of robotic society held at IITM- *https://dl.acm.org/doi/10.1145/3352593.3352603*

Skills

Programming Language: C++ and Python
ML and DL packages: Sklearn, Pytorch, Numpy, Pandas, and Seaborn.
Data analysis & Manipulations: MS Excel and SQL.

Relevant Courses

1) Data Structures and Algorithms
2) Machine learning
3) Deep learning
4) Matrix Theory
5) Probability & Random variables
6) Visual Computing
7) Applied statistics
8) Intro to brain and neuroscience

Scholastic Achievements

1) **Reliance Foundation scholar:** This Scholarship is meant for students pursuing their studies in the **field of AI and ML.** I got selected as **one of the top 40 PG students across our nation** for this scholarship.
2) **Amazon Machine learning summer school:** Attened Machine Learning summer school by **Amazon** from *2nd to 24th June 2022.* Got insightful understanding of supervised and unsupervised learning algorithms.

Positions of Responsibility

1) Core Member in Epoch club: IITH

Epoch is an ML and AI club of IITH. The responsibilities are doing projects and conducting seminars on ML topics.

Extracurricular

- Rajyapuraskar and **Governor awardee** in Bharat Scouts and Guides.
- Finished **6th in the National schools'** Team Chess Championship (2015).

Certification

- Python OOP: four pillars of OOP in python 3 for beginners — Udemy
- Introduction to programming with MATLAB — Coursera
- Computer vision basics — Coursera

Social Media

LinkedIn: Link
GitHub: Link