Jyothi K C

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EDUCATION

Vellore Institute of Technology Vellore, Tamil Nadu
B. Tech in Computer science with specialization in data science Aug 2023

- Cumulative GPA: 8.23/10
- Relevant coursework: Predictive Analytics, Data Mining, Statistics, Image processing(A), Database management systems, Big Data Analytics(A), Information security systems(A)

Paavai Vidhyashram School Namakkal, Tamil Nadu

- 12th CBSE board: 78% May 2017

SKILLS

Programming and Data Structures
Python, SQL, C++, R, PL/SQL, HTML/CSS, Java, GitHub, Dash, Complex Data Structures (trees, linked lists, arrays), Tableau, Power BI, Hadoop

Machine Learning and Data Science
Python(e.g., Scikit-learn, Pandas, NumPy, Matplotlib, Tensorflow, PyTorch) , Data science pipeline (cleansing, wrangling, visualization, modelling, interpretation) , Statistics, Time series, Computer Vision

ACADEMIC PROJECTS

Pre-trained Dog Classifier Nov 2023

- Built a pre-trained dog classifier using ResNet , VGG and AlexNet models on custom dataset with animal images, with **VGG(best performing) having 100% specificity, precision 100% and accuracy 87.5%.**

Machine learning and Explainable AI for predicting Remaining-Useful-Life Dec 2022 – May 2023

- Built an interface for predicting the remaining-useful-life of the turbofan engine on the NASA turbofan dataset.
- The frontend was designed using Dash Plotly and a TCN-LSTM predictor was used with explainable AI algorithm, SHAP for further insights in the results via visualisations of results.
- **The proposed framework is comparable with existing implementations in literature and achieved** an **RMSE of 12.772 and the project is in the process of publication.**

Facial Expression Recognition Aug 2022 – Sep 2022

- Implemented a facial expression detector (in a team of two) for image processing coursework.
- The detector used Haar Cascade (for real-time detection) and CNN (trained for 15 epochs, with 3 convoluted and 2 dense layers) algorithms with **accuracy of 70% overall (87% for happy and neutral faces).**

Sign Language Recognition May 2022 - Aug 2022

- Designed a sign language detector (in a team of four) to recognize hand signs using the ASL dataset on Kaggle.
- **The ResNet and EfficientNet models were fine-tuned and achieved accuracy scores of 0.9956 and 0.9995 respectively and the real time CNN detector achieved a confidence score of 90%**.

PUBLICATIONS AND CERTIFICATIONS

Publication:
Jyothi K., Neelu Khare. Convergence of Machine Learning and Blockchain Technology for Smart Healthcare Applications, May 2023, Book chapter doi: 10.4018/978-1-6684-7697-0.ch006

AI Programming with Python, *Nanodegree by Udacity and AWS* Oct 2023- Feb 2024

- Participated in the AWS AI and ML challenge by competing in the DeepRacer student league and trained a reinforcement model (PPO) to achieve a lap time of under 3 minutes as well as passing an assessment, thereby qualifying for the scholarship which is offered to the top 1000 applicants.

Oracle Machine Learning Using Autonomous Database 2022 Certified Specialist Jun 2022 - Oct 2022

- Performed vehicle insurance fraud detection in oracle machine learning notebook for the final project.

AWS Machine Learning Foundations, Udacity and AWS Oct 2021 - Jan 2022

- Was sponsored for the nanodegree AWS Machine Learning Foundations and worked on bike sharing demand(clustering) prediction for final project.

EXTRACURRICULARS

Helphen India, *non-profit organization* Aug 2020-2022
Was part of the event planning and PR core teams on campus (content writing and teaching volunteer at local school).