DHIVYA S

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EDUCATION

Bachelor of Computer Science Engineering (BE), **2018 - 2022**
*E*aswari Engineering College CGPA 8.72/10
*R*elevant Coursework:

- Object Oriented Programming
- Database Management Systems
- Operating Systems
- Design and analysis of algorithms
- Soft Computing
- Computer Architecture

PUBLICATIONS

Research Interests: Deep Learning, Computer Vision, Natural Language Processing, Data Science

1. **Comparison of Convolutional Neural Networks and K-Nearest Neighbors for Music Instrument Recognition** *A*dvances in Speech and Music Technology: Computational Aspects and Applications, **Springer International Publishing**, 2021, S Dhivya, Prabu Mohandas
2. **Lane and Traffic Sign Detection in Self-Driving cars using Deep learning**
International Journal of Vehicle Structures and Systems , S Dhivya, B.Padmavathi, Kavitha Datchanamoorthy, Aneesa K Banu, Mukesh Karthikeyan S, 2023, Accepted.

EXPERIENCE

Zoho Corporation August 2022 - Present
Software Developer - Part of the Manage Engine - Log360 Cloud OD Team *Chennai, India*

- Resolved numerous bugs and optimized code, resulting in a 150% performance improvement in a module.
- Developed a feature serving as a framework for all application modules, demonstrating advanced knowledge of generalization and scalability.
- Contributed to a product serving millions of customers, directly impacting their experience through developing a key feature.

Cognizant Technology Solutions January 2022 – August 2022
Programmer Analyst Trainee Intern *Chennai, India*

- Part of the Artificial Intelligence and Analytics (AIA) - Informatica Cloud Team.
- Used Informatica software to design data storage systems to provide clients with faster insight into their business.
- Analyzed and tested Data warehousing techniques, ETL tools. Created various mappings using Infomatica Powercenter, IICS.

National Institute of Technology, Calicut June 2021 – July 2021
Summer Research intern under Prof. Prabu Mohandas *India*

- Worked on finding solutions for the challenging task of Music Instrument Recognition. Developed a model that labels unlabeled audio files so that manual annotation can be avoided.
- A Convolutional neural network and K nearest neighbors classifier framework were implemented to identify the musical instrument present in a monophonic audio file and the performance of the two models are compared.
- The model performed well with excellent result of 99.17% accuracy for the Convolutional Neural Network and 97% accuracy for the k-nearest neighbor architecture.

Indian Institute of Information Technology Design & Manufacturing May 2020 – May 2021
Research intern under Dr. Sivaselvan B *Kancheepuram,India*

- Explored state-of-the-art deep learning based approaches for detecting forged facial images and videos. Delved into the evaluation metrics commonly used for assessing the performance of detection algorithms, highlighting their strengths and limitations.
- Presented a comparative study of four popular deep learning architectures, DenseNet, MobileNet, Xception, and EfficientNet, for the detection of face forgery.
- Conducted a comprehensive evaluation and comparison, to provide valuable insights for researchers and practitioners seeking to leverage deep learning models for face forgery detection.

SKILLS

Languages	C, C++, Python, Java, MySQL, HTML/CSS, Javascript
Machine Learning	Keras, TensorFlow, PyTorch
Python Libraries	OpenCV, ImageIO, Scikit-learn, Scikit-image, Pillow, Numpy, Pandas, scipy, librosa

PROJECTS

For more projects visit https://github.com/dhivyasreedhar

COVID 19 AI Diagnosis Using only cough recordings :

- Built a pre screening tool that has the potential to detect COVID 19 patients, including the asymptomatic ones with an accuracy of 98%
- The cough recordings consists of both COVID positive and COVID negative people. Cough recordings are transformed with Mel Frequency Cepstral Coefficient and trained to a Convolutional Neural Network (CNN)
- This project aims to prove AI techniques can produce a free, noninvasive, real-time, any-time, instantly distributable, large scale COVID-19 asymptomatic screening tool.

Lane Detection for Self-Driving cars:

- Developed a VGG-16 Convolutional neural network for road segmentation.
- The model is trained on the KITTI Road/Lane Detection Evaluation 2013 dataset.
- The model performed well and the lanes are segmented correctly with an accuracy of 98.58%.

Music Instrument Recognition :

- A Convolutional neural network and K nearest neighbour classifier framework is implemented to identify the musical instrument present in a monophonic audio file and the performance of the two models are compared.
- The model is trained on London Philharmonic dataset which consists of 6 different classes of musical instruments. Mel spectrogram representation is used to extract features.
- The model helps to label the unlabelled audio files so that manual annotation can be avoided with an excellent result of 99.17% accuracy for the Convolutional Neural Network and 97% accuracy for the k-nearest neighbor architecture.

Movie Recommendation System :

- Built a movie recommendation API that uses a item-based collaborative filtering algorithm.
- It takes a movie input from the user and recommends 10 movies based on the entered movie. The TMDB 5000 movie dataset is used.

Fake Tweet Detection :

- A LSTM Model is trained to detect fake tweets from twitter.
- 2 models are trained - Bidirectional stacked LSTM using pre-trained embedded vectors and a Bidirectional stacked LSTM without pre-trained embedded vectors from GLOVE
- Both models performed well and detected fake tweets with an accuracy of 99%.

AWARDS & RECOGNITION

- Selected as a Summer Scholar for the 6th Summer School on Artificial Intelligence 2022 organized by **International Institute of Information Technology Hyderabad** from 18 Jul - 19 Aug 2022
- **Best Outgoing student award** of 2018 Batch in my school and Scored **99/100** in Computer Science, XII (CBSE) Board Exam
- **4th Place** in PRIDE Project Presentation out of 500 students in my institute for project **Artificial Photosynthesizer**, won cash prize of Rs.10,000, **2nd prize** in PRIDE Find a Bug Contest organized by Wisen IT Solutions
- Selected as one of the six Student Mentors in my department. Responsibilities include mentoring junior students academically and providing guidance about their career prospects. Invited to give guest lecture about **Visual Perception with Deep Learning** for the Department of Computer Science and Engineering in association with **EEC-Alumni Students Chapter and CSI Chennai**
- **Organizing member of Vulcans – Cultural team of EEC** : Organized Swagat, Talentia and Retweet (Cultural Fests), **Department head of Youth Red Cross** - EEC Chapter
- Participated and won **Verbal Mention** in various **Model United Nations** including CAMBIO MUN, SRM Vadapalani MUN, SSNMUN. Participated and Won in more than 100 national and state level art competitions.