Sanidhya Vijayvargiya

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Education

B. Tech Computer Science Engineering

2020-2024(expected)

Undergraduate at BITS Pilani

- Additional Study: Natural Language Specialization by DeepLearning.AI
- Additional Study: Deep Learning Specialization by DeepLearning.AI
- Additional Study: CS50's Introduction to Artificial Intelligence with Python by Harvard University
- Additional Study: Reinforcement Learning course by DeepMind

Research Experience

Undergraduate Research Assistant in Natural Language Processing

Dept. of CSIS, BITS Pilani

COVID-19 Article Classification using Word-Embedding and ELM with Various Kernels

Aug. 2021- Present

- First author for paper accepted at 36th International Conference on Advanced Information Networking and Applications: Core B.
- Used Kaggle dataset to train an article classification model using Extreme Learning Machine and employed various word-embedding techniques, and feature selection techniques to build the classifier.
- Focuses on solving real world problems created due to COVID-19 pandemic. The research is being extended further currently.

Software Functional Requirements Classification using Ensemble Learning

- First author for paper submitted for review at The 22nd International Conference on Computational Science and Its Applications.

Software Sentiment Analysis using Machine Learning with Different Word-Embedding

- Paper submitted for review at The 22nd International Conference on Computational Science and Its Applications.

Projects

Sudoku Solver

Python Program to solve Sudokus with **Deep Learning** and **OpenCV** using Tensorflow 2.0 and Keras

- Takes in Sudoku images as input with handwritten digits, classifies the digits and identifies box edges.
- I have trained a CNN from the MNIST database to help recognize the digits with an accuracy of 99.06 %

Stock Trading Website

Stock Simulator website to buy and sell stocks

- Designed and developed a web application using Python with Flask framework and managed user data using SQLite. Used real time data from IEX Cloud API and executed secure user registration and login. Bootstrap, JavaScript and CSS to improve aesthetics.

File Compressor

C++ program using Huffman Coding Algorithm

- Compresses and decompresses text files using data structures such as priority queue, unordered map, vector and binary heap.

Parking Slot Booking Web Application

Java Program with Bootstrap, Spring, MySQL, JavaScript, Figma, CSS

- Implemented login page and dashboard for user and admin using RBAC.
- Provided numerous functionalities and flexibility to both admin and user.

Skills

- Python (and its libraries: NumPy, OpenCV, TensorFlow, Keras, Pandas, OpenCV, MatplotLib, Seaborn, TensorFlow, Scikit-Learn), MySQL, SQLite, C++, Flask, MatLab
- Machine Learning: Supervised Learning(SVMs, Neural Networks (ANN, RNN and CNN)), Unsupervised Learning(K-means Clustering, Anomaly Detection), Word Embedding, Reinforcement Learning

Extracurricular Activity

Students for the Exploration and Development of Space

Thrust Vector Control Team

- Using Reinforcement Learning in gimbal in rockets for trajectory correction by applying control systems principles.

ACM

College Chapter

Content Team

- Working on AI chatbot using Kaggle database.