

Vinoth Palanivel

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SKILLS

Programming Languages : Python, Java

Data Science Libraries : Pandas, Numpy, Scikit-learn, Streamlit

Frameworks : Pytorch, Tensorflow, keras, Django, Flask, Spring MVC, Springboot, Junit

Data Visualization : Matplotlib, Plotly, Seaborn, PowerBI

Cloud Technology : AWS

Databases : MySQL, MongoDB, CosmosDB

Version Control : Git, GitHub

PROJECTS

CIFAR-10 Image Classification with Convolutional Neural Networks | [Link](#)

- Engineered a CNN to classify CIFAR-10 images into 10 categories (e.g., airplanes, automobiles, cats) using TensorFlow and Keras. Incorporated multiple convolutional layers, max pooling, and dropout for regularization.
- Implemented real-time data augmentation (e.g., rotations, shifts, flips) to enhance model generalization, achieving a test accuracy of 80.89% and a test loss of 0.57. Optimized the model with Adam and sparse categorical cross-entropy loss.

Cat vs Dog Image Classification with CNN | [Link](#)

- Designed a CNN model to classify cat and dog images into 2 categories using TensorFlow and Keras. Cleaned and pre-processed data, eliminating corrupted files.
- Applied real-time data augmentation (rotation, zoom, flip) to boost model generalization. Attained a training accuracy of 79.41% and validation accuracy of 81.26% after 10 epochs.

Generative Adversarial Network (DCGAN) for Image Generation | [Link](#)

- Created a DCGAN to generate images from a dataset of 21,551 images. Modelled a generator model with convolutional layers and a discriminator model using Conv2D and batch normalization.
- Trained the DCGAN for 15 epochs.
- Achieving a discriminator loss of 0.45 and a generator loss of 1.92. Incorporated a callback to visualize generated images during training. Improved the model with Adam and binary cross-entropy loss in TensorFlow and Keras.

Hate Speech Detection Project | [Link](#)

- Trained a model to classify text as "hate speech" or "non-hate speech" using Python, Pandas, Numpy, Scikit-learn, NLTK, and Matplotlib. Merged and cleaned data from over 10,000 samples, removing unwanted characters, URLs, and stop words.
- Applied TF-IDF to convert text into numerical data and fine-tuned the model using Grid Search. Engineered a Logistic Regression model, achieving 86.7% accuracy on test data.

Movie Ratings Prediction | [Link](#)

- Developed a machine learning model to predict movie ratings from over 10,000 Rotten Tomatoes reviews, utilizing Python, Pandas, Scikit-learn, XGBoost, TextBlob, Matplotlib, Seaborn, and Joblib.
- Assessed model performance using R² Score, MAE, and MSE, achieving an R² score of 0.56. Employed a callable prediction pipeline and saved the final model using Joblib.
- Delivered a predictive model with moderate accuracy (R² = 0.56).

WORK EXPERIENCE

Associate Test Engineer | Ashok Leyland (Payroll: **Lead Hr Services Pvt Ltd**)

Dec 2022 – Present

- Involved in Python Incorporated Data Cleaning and Report analysis of various test data and completed work with 50 % more efficiency.
- Performed more than 20 Pre-Homologation and Homologation for the certifications of Commercial Vehicles (LCV).
- Conducted 80 % of the Electrical Performance, Homologation and On-road Trials for the LCV Vehicles new Product Development.

Java Developer | Tata Consultancy Services (Payroll: **Crown solutions India Pvt Ltd**)

Sep 2021 – Jul 2022

- Actively Participated in the development Micro services for a pharmacy Application for 1 year.
- Wrote 500 lines of backend logic code using Java Programming Language, Spring Integration & Spring MVC Framework.
- Engaged in 90 % of Code refactor and involved in Defect management and resolved the reported bug.
- Handled databases with the help of CosmosDB and written 25 queries to fetch data.
- Used 3 number Tools such as Optimus, JIRA, Confluence and Git.

Production Editor | Scientific Publishing services Pvt Ltd

Jul 2019 – Dec 2020

- Responsible for the Books publication and verification of compiled Journals.
- Proof-read of the Cover and A- pages and made 100 % Error free.
- Verified and published more than 50 Books compiled from individual journals.
- Actively collaborated with authors via email and communicated about the errors and rectified them and published the Books on an averages of 15 days before the deadline.

Electrical Technician | CPCL (Payroll: **Dhanalakshmi Electricals**)

Mar 2017 – Oct 2017

- Specialized in motor overhauling, servicing, and repair, enhancing the performance. Diagnosed and resolved 85% of electrical issues.
- Conducted 15 preventive maintenance sessions, and reduced equipment downtime by 60%, ensuring optimal performance and longevity.

EDUCATION

Bachelor of Engineering, Electrical and Electronics Engineering, CGPA: 7.48

Aug 2012 – May 2016

Jaya Engineering College

Chennai, India

CERTIFICATION

Master Data Science Program from Guvi Geeks Networks Pvt Ltd.

Jun 2023 – Nov 2023