KEERTHI RAJ

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PROFILE

Machine Learning Engineer specializing in Natural Language Processing (NLP), adept at designing and implementing innovative solutions. Proficient in TensorFlow, Keras, and various ML frameworks, with a strong focus on creating intuitive data visualizations. Have a knowledge in Java development. Strong problem-solving skills and delivering accurate and reliable AI solutions.

SKILLS

- **Frameworks:** Machine Learning; Numpy; Computer Vision; Pandas; Scikit-learn; Data Visualization; Regression; Classification; Clustering; TensorFlow; Keras; Docker; Natural Language Processing; Neural Networks; Big Data, AI, Generative AI; Linux; Raspberry Pi; OpenCV; Microsoft Office; Power BI
- **Programming Languages:** Python; C; Java; C++; SQL
- **Front-End Development:** HTML; CSS; React.js
- **Back-End Development:** Flask; Node.js
- **Databases:** MySQL; SQLite; MongoDB; Hadoop;
- **Software:** Microsoft Azure; Google Firebase; Heroku; Github; Anaconda; Visual Studio Code; Android Studio; JetBrains; Matlab; Kaggle; Google Cloud Platform

EDUCATION

Masters In Computer Engineering - The University of Texas At Arlington, Texas, USA (GPA – 4.0/4.0) **08/2022 – 05/2024**

Bachelors In Computer Engineering And Data Science - Presidency University, India (GPA – 3.96/4.0) **08/2019 – 06/2023**

PROJECTS – [Github - https://github.com/KR-16]

Visual Question Answering - Python, Natural Language Processing, BERT, Transformers, Computer Vision, Feature Engineering

- Trained the model on a dataset comprising approximately 400,000 image-question-answer triplets to ensure robustness.
- Implemented model checkpointing to save intermediate states during training, facilitating retraining and experimentation.
- Achieved competitive performance on benchmark VQA datasets, demonstrating the effectiveness of the LSTM-VGG19 architecture.

Car Price Prediction – Python, Flask, Feature Engineering, Regression Algorithm, Predictive Modelling, Heroku, Machine Learning

- Developed a Regression based machine learning model to predict car prices based on features such as mileage, brand, and model.
- Utilized regression algorithms and feature engineering techniques to achieve accurate predictions.
- Deployed to Heroku with the help of Flask Framework.

Language Model Detection – Natural Language Processing, feature engineering, predictive modelling, Python, Naïve Bias

- Developed a robust language model detection system utilizing feature extraction techniques and statistical analysis methods.
- Addressed the challenge of increased diversity in textual data, distinguishing between human and machine-generated content through innovative approaches.
- Evaluated model performance rigorously, employing a combination of accuracy metrics and Bayesian inference to ensure high reliability in language model identification.

Flowers Classification – Image Processing, feature engineering, predictive modelling, Python, Tensorflow, Hardware acceleration

- Developed a petal classification model using Tensor Processing Units (TPUs), expertise in machine learning, hardware acceleration.
- Optimized neural network architecture for efficient model training and inference, demonstrating proficiency in deep learning.
- Conducted feature engineering and data preprocessing to enhance model accuracy, utilizing advanced data manipulation methods.
- Integrated TPUs to boost overall model efficiency by greatly increasing processing rates, leveraging parallel computing capabilities.

EXPERIENCE

Slate Intern – University of Texas at Arlington, Arlington, Texas **03/2023 – Present**

- **Skills Acquired:** Manage, Communication, Organization, Teamwork, Customer Service, Multi-tasking
- Managed a team of 7 members, scheduling tasks and conducting weekly updates.
- Collaborated with team members to optimize admissions processes, enhancing efficiency.
- Processed admissions applications with meticulous attention to detail.
- Guided students through admissions procedures, ensuring a seamless experience.

Software Engineer - REEV (Range Extended Electric Vehicle), SAEINDIA **03/2021 – 08/2022**

- **Skills Acquired:** Matlab, Simulink, Canva, Flowchart Maker
- Designed a hybrid automotive algorithm for the microcontroller unit, with a focus on sensor control and automatic hybrid conversion.
- Conducted thorough testing and optimization of algorithms to ensure seamless functionality in real-world scenarios.
- Collaborated with a multidisciplinary team to integrate algorithms into the vehicle's control system.

Machine Learning Engineer - ROBOCCON 2022, VIKASANA **02/2022 – 07/2022**

- **Skills Acquired:** Raspberry pi, TensorFlow, Computer Vision, Data Collection, Python, Transformation
- Implemented ball image recognition on Raspberry Pi, showcasing skills in computer vision and edge computing.
- Improved dataset diversity by capturing multiple instances of the ball under various image conditions.
- Optimized deep learning algorithms such as CNN and TensorFlow Lite for accuracy and model performance.
- Utilized CSRT, KCF, and Boosting OpenCV tracking algorithms to enhance Raspberry Pi tracking performance.