Prakashraj Nehrudass

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Education

University of Southern California   **Aug 2023 – May 2025**
Master of Science in Computer Science(AI)   *Los Angeles, California*
- Expertise in AI, ML and Deep Leaning , proficient in developing advanced algorithms and models
- Strong foundation in NLP, Computer Vision, Robotics

Easwari Engineering College (Anna University)   **Aug 2019 – Apr 2023**
Bachelor of Engineering in Computer Science   *Chennai, India*
- Gained substantial expertise in coding and analytical techniques
- Professional proficiency in Data Structures, Algorithms, and Artificial Intelligence

Experience

Vilesov labs, University of Southern California   **Sep 2023 – present**
Research Assistant | *Python, Matlab, ML Models*   *Los Angeles, California*
- Applied computer science expertise to develop machine learning algorithms for X-ray image analysis in Matlab and Python; collaborated with Dr. Andrey Vilesov to advance interdisciplinary research at the nexus of computer science and chemistry.
- Designed and implemented applications in Java to analyze laser power, fine-tune laser parameters, and control laser operations; additionally developed applications for oscilloscope data analysis, showcasing practical skills in computer science applications within experimental setups.

IBM iX   **Aug 2022 – Nov 2022**
ML Engineer Apprenticeship | *Regression, Natural Language Processing*   *Chennai, India*
- Led initiatives in the realms of deep learning and natural language processing, showcasing expertise in cutting-edge technologies
- Developed an advanced oil classification model for a prominent Saudi oil company, incorporating state-of-the-art KNN algorithms for accurate classification. Additionally, pioneered a BERT-based chatbot for a distinguished European bank, emphasizing practical applications and innovation in machine learning

Coding Zen   **Aug 2021 – Oct 2022**
ML Engineer Intern | *Computer Vision, Speech Recognition*   *Delhi, India*
- Designed a computer vision application for enhancing the educational experiences of kindergarten children, utilizing convolution neural network models. Enhanced interaction and learning by training children to recognize objects from images and testing their knowledge by questioning children to recognize objects from images and testing their knowledge language model interactions.
- Gained practical skills in integration, infrastructure management, and implementation during the development of real-world projects.

Projects

Long Document Classification | *Pytorch, Neural Network, Multi-task Learning*   **Dec 2023**
- Utilized cosine similarity on sentence embeddings to proficiently extract salient sentences, showcasing adeptness in natural language processing techniques.
- Developed a robust multi-task model for long document classification, incorporating salience labels as a regularizer.
- Achieved a noteworthy 5 percentage improvement over transformer-based models, demonstrating an innovative approach that significantly enhanced the accuracy of the classification task

Text extraction from Identity Cards | *Pytorch, CNN, YOLO*   **Oct 2023**
- Developed a Convolutional Neural Network (CNN) for the classification of Indian ID cards (PAN, Aadhaar, Passport), demonstrating expertise in computer vision.
- Leveraged YOLO v7 for precise object detection on ID cards, facilitating accurate bounding box extraction.
- Utilized Tesseract for seamless text extraction from the extracted bounding boxes, ensuring efficient processing of information.

Technical Skills

Languages: Python, C, C++, Java, Javascript, R
Developer Tools: Linux, RTOS, ROS, Git, AWS, Azure, Docker, CUDA
Machine Learning Libraries and Frameworks: Tensorflow, Pytorch, Keras, NLTK, Opencv
Frontend and Backend: HTML, CSS, React.js, Electron js, Django, Flask, Node.js
Database: SQL,RDBMS, Mongodb