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*

Easwari Engineering College (Anna University) — Aug 2019 – Apr 2023
Bachelor of Engineering in Computer Science — *Chennai, India*

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, LLM, Hugging Face
BackendFrontend and Backend: HTML, CSS, React.js, Electron js, Django, Flask, Node.js
Database: SQL,RDBMS, Mongodb

EXPERIENCE

Vilesov labs, University of Southern California — Sep 2023 – present
Research Assistant | Python, Matlab, ML Models — *Los Angeles, California*

- Applied computer science expertise to optimize machine learning algorithms for X-ray image analysis in Matlab and Python; collaborated on interdisciplinary research with Dr. Andrey Vilesov.
- Additionally, designed and implemented Java applications for laser power analysis, fine-tuning parameters, and controlling operations, demonstrating practical skills in computer science applications within experimental setups.

IBM iX — Aug 2022 – Nov 2022
ML Engineer Apprenticeship | Regression, Natural Language Processing — *Chennai, India*

- Developed an advanced oil classification model for a prominent Saudi oil company, incorporating state-of-the-art KNN algorithms for accurate classification
- Pioneered a BERT-based chatbot for a distinguished European bank, emphasizing practical applications and innovation in machine learning

Coding Zen — Aug 2021 – Oct 2021
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.
- 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

- Leveraged cosine similarity on sentence embeddings to adeptly extract salient sentences, showcasing expertise in natural language processing.
- Enhanced a robust multi-task model for long document classification, achieving a remarkable 5 percentage improvement over transformer-based models through innovative use of salience labels as a regularizer

Text extraction from Identity Cards | *Pytorch, CNN, YOLO* — Oct 2023

- Implemented 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.
- Deployed Tesseract for seamless text extraction from the extracted bounding boxes, ensuring efficient processing of information.

PATENT

Waste Collecting Robot Using Deep Learning and IoT - No. 202341025608 A, May 2023