Raghav Prabhakar

Machhine Learning Engineer
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Education

Vrije Universiteit — Amsterdam, Netherlands
Masters of Science, Artifical Intelligence — *September, 2025 - Present*

Thapar Institute of Engineering and Technology — Patiala, India
Bachelors of Engineering, Computer Engineering, CGPA: 8.6/10 — *2019 - 2023*

Experience

Machine Learning Engineer — December. 2023 – August. 2025
Dubverse.ai — *Gurugram, India*

- Developed language classification, music separation models and pushed transcription features to improve product offerings and built internal tools to support business analytics
- Created Text-To-Speech SDK, designed end-to-end data pipelines, and managed large-scale dataset processing and infrastructure setup.
- Led and managed a team of 2-3 engineers, ensuring efficient execution of projects while optimizing infrastructure costs and scaling services for product launches.

Research Assistant — August. 2023 – December. 2023
National University Of Singapore (NUS), Singapore — *Remote*

- Developed a framework and QA datasets to analyse and improve physical common-sense reasoning in embodied agents.

Research Assistant — October. 2023 – December. 2023
Machine Learning Lab - IIIT Hyderabad — *Hyderabad, India*

- Researched and deployed Pose Estimation and Tracking Models to provide qualitative feedback to users, enhancing their exercise experience and performance monitoring.
- Orchestrated the on-site deployment of these models in a gym environment for real-world testing and validation.

Research Assistant — January. 2023 – August. 2023
Robotics Research Centre (RRC), IIIT Hyderabad — *Hyderabad, India*

- Created a pipeline for generating detailed top-down maps with instance data, enhancing autonomous wheelchair's Visual Language Navigation.
- Engineered a gesture-controlled person-following robot with static obstacle avoidance capability.
- Research the applications of Large Language Models (LLMs) in embodied AI domain and code generation.

Co-Founder — April. 2020 – June. 2023
Flowdrive.ai — *Patiala, India*

- Architected and developed an open-source, cross-platform Level 2 Advanced Driver Assistance System (ADAS)
- Led diverse edge device model deployment and directed robust data collection and logging.
- Executed thorough validation of software functionality through meticulous testing within the CARLA simulator framework.
- Developed pseudo LIDAR system using cameras and deep learning, utilizing DenseDepth for 3D reconstruction from monocular images.
- Implemented deep learning-based behavioural cloning models for autonomous vehicles, creating models that learn and imitate human driving patterns.

Data Science Fellow — January. 2022 – March. 2022
Fellowship.ai — *Remote, Global*

- Conducted Research and Development on Video Classification Models, Pose Estimation for Video Analytics.
- Contributed to the development of algorithms and tools for analysing video content, including feature extraction, data cleaning, and visualization.

Junior Machine Learning Engineer — June. 2021 – August. 2021
Omdena.ai — *Remote, Global*

- Developed and deployed real-time object recognition models to detect buses and OCR models to recognize their license plates.
- Integrated the models into the company's mobile app for real-time bus detection and seat occupancy detection and optimized models for efficient processing and low latency
- Spearheaded data collection and engineering efforts, establishing robust data pipelines to fuel AI model development.

Software Engineer January. 2020 – February. 2020
Thapar Satellite Development Center (ThapSat), TIET *Patiala, India*

- Contributed to the design and development of ThapSat Nano-Satellite for monitoring greenhouse gases in Punjab region
- Worked on Software Defined Radio (SDR) development for ThapSat Nano-Satellite project

Publication

1. A. Agrawal, **Raghav Prabhakar**, A. Goyal, and D. Liu. Physical reasoning and object planning for household embodied agents. *Transactions on Machine Learning Research*, 2023

2. L. Nanwani, A. Agarwal, K. Jain, **Prabhakar Raghav**, A. Monis, A. Mathur, K. M. Jatavallabhula, A. H. Abdul Hafez, V. Gandhi, and K. M. Krishna. Instance-level semantic maps for vision language navigation. In *2023 32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, pages 507–512, 2023

Projects

Face surveillance system for Hostels | *Python, Pytorch, React, PostgreSQL, Docker, Django*

- Led the deployment of a full-stack facial surveillance system for monitoring student attendance within campus premises, successfully managing at a scale of 10,000 individuals.

Nucleus Segmentation From 2D Scans | *Python, Keras, OpenCV*

- This project was an implementation of U-Net from scratch in the Bio-Imaging sector. It was also part of the Kaggle Data Science Bowl 2019. A model with accuracy of 94.3% was made to detect cells and nucleus from scans.

Image Captioning | *Python, Pytorch, OpenCV*

- Implemented a Deep Learning project utilizing a CNN-LSTM model trained on Flickr30k dataset. Task involved image summarization through caption generation using PyTorch framework.

Technical Skills

Languages: Python, Java, C++, SQL
Frameworks: Pytorch, Keras, ROS Navigation Stack, Flask, Celery, FastAPI
Developer Tools: Git, Docker, GCP, AWS, Azure, Gradle, Swagger, Grafana, Prometheus

Achievements

Top 8% in Kaggle Mayo Clinic - STRIP AI Competition
OpenAI Researcher Access Program, 2023
Finalist in Manthan Cybersecurity Hackathon (Organised by Govt of India) - Deepface Detection Track