Mouli Polaki

Thane West, Shivaji Nagar, Wagle Estate, Thane–400604

+91-8309352840 moulipolaki5@gmail.com linkedin.com/in/MouliPolaki github.com/exorcist05

Education

Ramrao Adik Institute of Technology, D.Y. Patil Deemed to be University Navi Mumbai, India
B.Tech in Computer Science Engineering (AI and Machine Learning), CGPA: 7.67/10 *July 2022 – May 2026*

Friends' Academy Mumbai, Maharashtra
12th Grade, Percentage: 62.18% *March 2022*

St. Lawrence High School and Junior College Mumbai, Maharashtra
10th Grade, Percentage: 86.48% *March 2020*

Experience

IBM AI Edunet – AICTE Virtual Internship May 2025 – July 2025
AI Intern *Remote*

- Developed an Employee Salary Prediction model using **Python** and **Google Colab**, training on real-world HR datasets to predict salary ranges based on features such as experience, education, and job role.
- Performed end-to-end data preprocessing using **Pandas** and **NumPy**, handling missing values, encoding categorical variables, and engineering features to improve model accuracy.
- Visualized salary distributions, feature correlations, and model performance metrics using **Matplotlib** and **Seaborn**, deriving actionable insights from the data.

Sujan Industries Jan 2026 – Apr 2026
R&D Intern (AI Intern)

- Developed **TrackVision Pro**, an AI-powered railway safety system using **YOLO** and **OpenCV** to detect obstacles such as humans, animals, and debris on tracks in real-time with distance estimation.
- Implemented a **CNN/YOLO**-based object detection pipeline with preprocessing, classification, and alert generation, integrated with **IoT** platforms (ThingSpeak/AWS IoT) to transmit instant alerts to loco pilots and control stations.
- Deployed the system on edge hardware (Raspberry Pi/NVIDIA Jetson) using **Python**, **TensorFlow**, and **PyTorch**, achieving reliable detection performance under low visibility and adverse weather conditions.

Projects

Cricket Shot Detector | *Python, TensorFlow, PyTorch, MediaPipe, OpenCV* May 2025

* Developed a real-time cricket shot detection system using OpenCV, PyTorch, and MediaPipe to analyze and classify cricket shots.
* Leveraged computer vision and machine learning techniques to process video input, detect player movements, and identify shot types.
* Demonstrated expertise in deep learning, real-time image processing, and keypoint detection using MediaPipe.

CaloriDEX – AI Calorie Tracker | *Python, YOLOv11n, TFLite, Flutter, Firebase, PyTorch* November 2025

* Built an AI-powered mobile calorie tracking app using a custom-trained **YOLOv11n** model on a dataset of **16,503 images** across 10 Indian food categories, achieving real-time on-device food detection with **mAP50** $\approx$ **0.6** and confidence scores above 0.8 for most classes.
* Converted the PyTorch-trained model to **TensorFlow Lite** for mobile deployment and integrated it into a cross-platform **Flutter** app, enabling instant calorie estimation by capturing or uploading a meal photo without any internet dependency.
* Implemented a **Firebase** backend (Authentication + Cloud Firestore) with a structured daily-log data model, supporting real-time calorie and macronutrient tracking, personalized goal calculation via the Harris-Benedict formula, and historical progress logging.

Technical Skills & Certifications

Languages: Python, HTML/CSS, JavaScript
Frameworks: TensorFlow, PyTorch, OpenCV, MediaPipe, React
Technologies: Deep Learning, AI, Machine Learning, Natural Language Processing (NLP), Linux, AI Video Generation, REST APIs, Claude, Codex
Certifications: AWS Academy Graduate – AWS Academy Machine Learning Foundations, Databricks-Generative AI and Large Language Models (LLMs)

Leadership

IEEE-RAIT Navi Mumbai, India
Publicity Head *June 2024 – February 2025*
- Led publicity efforts for various workshops and college tech fest, successfully increasing event attendance by 40%.
- Collaborated with peers to develop and execute strategies for ticket sales and participant .

Extracurricular

Fr. Agnel Project Navi Mumbai
Participant *June 2024*
- Developed *Hydra*, a water quality analysis project which identified if a sample of water is potable based on parameters such as solubility, hardness, pH, acidity, etc.

Technovate 2025 RAIT, Navi Mumbai, India
Lead Publicity Co-ordinator and Floor Head *April 2025*

Hobbies

Programming, Driving, Sports, Chess, Gaming