CONTACT

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Chennai, India

linkedin.com/in/psrahul-ml

github.com/PSRahul

Certifications

Project Portfolio

PROJECTS

- CLIPtheCenter
- Product Photos with Stable Diffusion and LoRA
- LLM Explorer
- PriorDepth
- Human Face Generator

EXTRA-CURRICULAR

- Dean's Merit List - SASTRA University
- Teaching Assistant - *Introduction to Deep Learning* course at TU Munich
- Research Assistant - Computer Vision Team at TU Munich. [CVPR Paper]

LANGUAGES

- English (Fluent)
- German (Intermediate)
- Tamil (Fluent)

PS RAHUL

MACHINE LEARNING ENGINEER

EDUCATION

- **Technical University of Munich, Germany** — OCT 2019 - DEC 2022
  M.Sc. Computational Science and Engineering — CGPA 8.5 / 10
- **SASTRA University, India** — JUN 2013 - MAY 2017
  B.Tech Mechanical Engineering — CGPA 9.2 / 10

WORK EXPERIENCE

- **TÜV Rheinland AG** — MAY 2023 - APR 2024
  Computer Vision and Machine Learning Developer — BOCHUM, GER
  - Conducted statistical analysis of 20k+ data samples and established end-to-end data pipelines with MongoDB, FastAPI and Label Studio for streamlined data retrieval.
  - Managed design, training and evaluation of PyTorch-based models for vehicle damage detection. Introduced a novel class balancing algorithm, improving precision metrics from 40% to 70%.
  - Deployed machine learning models as microservices using TorchServe REST APIs in a Kubernetes cluster. Improved inference time from 272 ms to 41 ms per sample.
- **PreciTaste** — MAY 2022 - DEC 2022
  Machine Learning Researcher — MUNICH, GER
  - Proposed a multimodal few-shot object detection model named CLIPtheCenter, leveraging OpenAI's CLIP and CenterNet architectures for NLP-Vision tasks.
  - Enhanced object detection precision from 17% to 50% utilizing the proposed deep learning model compared to the baseline CenterNet architecture.

  Machine Learning Engineer - Part Time — OCT 2021 - APR 2022
  - Conceptualized and implemented data-driven vision algorithms to segment the regions of interest in videos with PyTorch, replacing hand-written rules.
  - Trained and deployed object detection neural models with up-to 95 percent mean precision for production projects.
- **IPS Intelligent Video Software** — JUL 2021 - SEP 2021
  Machine Learning Intern — MUNICH, GER

  Developed deep learning-based proofs-of-concept for the detection of pedestrians from security camera devices using Tensorflow and OpenVINO.
- **Ashok Leyland** — JUL 2017 - AUG 2018
  Graduate Engineering Trainee — CHENNAI, IND

  Worked on predictive reliability analytics for automotive product components.

SKILLS

Languages and Databases	Python, C++, MongoDB, Redis
Machine Learning Toolkits	PyTorch, Tensorflow, Scikit-Learn, Optuna
MLOps Frameworks	MLFlow, Kubeflow, TorchServe, LabelStudio, FastAPI
Numerical Packages	Numpy, SciPy, OpenCV, Scikit-Image, Pandas
Developer Tools	Kubernetes, Docker, Earthly, AWS Certified Cloud Practitioner
Gen AI Tools	OpenAI LLM API, LangChain, HuggingFace, Diffusion Models