PRABHAKAR PANDAY

Machine Learning & Software Development Engineer

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SUMMARY

"Passionate Machine Learning Engineer with a strong background in C++, Python, and various ML frameworks. Experienced in reinforcement learning, and motion planning. Proven ability to collaborate in multidisciplinary teams and deliver innovative solutions for autonomous systems.."

EXPERIENCE

Startup Experience

https://www.inettech.io/

March 2023 – currently Germany

- Led a team in developing AI algorithms for 3D tire profile estimation and OCR detection, achieving high accuracy and reliability.
- Designed and deployed a web application on Google Cloud Platform (GCP) for easy access and utilization of the OCR model.
- Managed image acquisition and processing using Daheng MER2 series industrial sensors, enhancing the precision of tire quality assessments.

Thesis & Intern

Valeo

July 2022 – Nov 2023 Germany

- Developed a GAN based deep learning model for LiDAR point cloud up-sampling & domain adaptation, increasing point generation x8 and enhancing resolution.
- Enhanced data management workflows on Google Cloud Platform (GCP), reducing processing time by 35% and improving operational efficiency.
- Conducted LiDAR point cloud trace simulations using carmaker software for comprehensive testing and validation.

Working Student in ADAS and AI

Robert Bosch GmbH, ESG Mobility, & University of Stuttgart

Jan 2021 – Apr 2022 Germany

- Contributed to Honda Lane project for L1 and L2 autonomous driver monitoring.
- Designed and implemented a customer-side Python-based desktop application for processing and displaying the diagnosis of eSIM inside Porsche Taycan Telecommunication Control Unit (TCU).
- Built a Windows application to detect edges from the incoming images from 2 cameras to interpret the depth of the image and measure the CPU cycles, improving efficiency.
- Successfully programmed ESP32 using ESP IDF with Python and downloaded a pre-trained model to detect single words using TensorFlow Lite.

Backend Developer

Oracle

July 2015 – Sept 2019 India

MACTHING SKILLS

Computer Vision
Image Processing | OpenCV | LiDAR Point-cloud Processing | Open3D/PCL | Detection | Segmentation | Tracking

Machine Learning & Deep Learning
PyTorch | TensorFlow | Keras | ClearML | Vision Transformer | Generative AI | VAE | GAN

Programming & Software Development
C/C++ | Python | SQL | Linux | Testing | JUnit Testing | ROS | Sensor Fusion | Selenium Testing

Tools & Frameworks
GCP | AWS | Git| CI/CD | Docker | Kubernetes | Simulation | Jira | SDLC

Mathematical & Analytical Skills:
Linear Algebra | Stastical Analysis | Data Analysis & Visualization | Algorithms

ACHIEVEMENTS

Winner: Hackaburg 2022
Excelled in problem-solving, data analysis, and advanced tech use on time-series temperature data within 48hours.

Finalist @Rohde & Schwarz Engg Competition 2022
Led the team to competition finals with 87% test accuracy using Yolov5 for Anomaly Detection in 10days.

- Contributed to the build, test, and deployment of a web-based enterprise solution.
- Impacted over 100,000 users across 66 countries.
- Achieved an 18% reduction in testing time for Fusion T&L software releases.

Student Hiwi

Department of Machine Learning and Robotics, University of Stuttgart

June 2020 – Dec 2020 Germany

- Implemented algorithms like Q-Learning, Deep Q-Learning, Lambda-Q, Monte-Carlo, and Markov models.

PROJECTS

Aware2All

Gestigon GmbH

Sept 2023 – Nov 2023 Germany

- Spearheaded pioneering research initiatives in-cabin driver and passenger monitoring systems using RGB and Depth sensors.
- Orchestrated dataset recording plans, ensuring comprehensive coverage of boundary conditions and enhancing model robustness.
- Implemented state-of-the-art models such as Yolov8 and v7, surpassing performance benchmarks on open-source COCO datasets.

Research Project

Institute for Visualization and Interactive Systems, University of Stuttgart

Oct 2021 – April 2022 Germany

- Developed a conditional GAN-based model for portrait image editing, improving the quality of the edited images by 10% compared to the original paper.
- Implemented style transfer using gram-matrix loss and component transfer to improve the realism in the generated image.

Internship

Institute for Visualization and Interactive Systems, University of Stuttgart

March 2021 – Aug 2021 Germany

- Trained CNN-based VAE models for generating facial images, achieving a 90% accuracy rate in image recognition tasks.
- Implemented Grad-CAM and Guided Grad-CAM techniques on U-net, VAE, and cVAE models, improving model interpret-ability and achieving a 15% increase in object tracking accuracy.

STRENGTHS

Industrious-worker | Resourcesful | Motivator & Leader

Product Management & Ownership | Abstract Thinking

EDUCATION

M.S. in Electrical Engineering

University of Stuttgart

Nov 2019 – Sept 2023

B.E. in Electrical Engineering

Visvesvaraya Technological University

July 2011 – July 2015

LANGUAGES

English	●●●●●
Kannada	●●●●●
Hindi	●●●●●
Tulu	●●●●○
German	●○○○○