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Github
Portfolio

Piyush Sham Patil

Data Scientist

OBJECTIVE

I am a Machine Learning enthusiast with practical experience in Python and various algorithms, specializing in data-driven solutions. Currently, I am seeking full-time opportunities within the domain, aiming to leverage and enhance my skills while actively contributing to impactful data-driven projects.

SKILLS

- **Machine Learning** - Scikit-Learn, Pytorch, TensorFLow, Palantir
- **Data Visualisation** - Tableau Public, Matplotlib, Tensorboard
- **Data Processing** - Pandas, NumPy, SQL
- **Coding Skills** - Python, C, C++
- **Software** - Matlab, MS-Excel, MS-PowerPoint
- **Interdisciplinary Skills** - Problem Solving, Cross Domain Knowledge, Project Planning
- **Languages** - Deutsch - Intermediate Level, English - Advanced Level

WORK EXPERIENCE

Forvia Hella Lippstadt, Germany
Vehicle Dynamics Analyst *March 2024 - May 2024*

- Analyze driving dynamics with G-Force trackers to understand motion sickness development.
- Develop automated GPS data evaluation systems for efficient analysis.
- Utilize machine learning techniques to construct predictive models for motion sickness based on g-force data.
- Collaborate with interdisciplinary teams to integrate findings into innovative automotive technologies.

Accenture ATCI Pune, India
Application Development Associate *January 2021 - August 2021*

- Managed and interacted with databases to retrieve, store, and update data on Oracle.
- Utilized Oracle's Siebel tools to create, modify and manipulate data objects.
- Created and Maintained documentation describing data objects, their relationships, and their use in analytics and reporting.

CEAT Tyres LTD. Nashik, India
Tread Manufacture Intern *December 2018 - January 2019*

- Collaborated on developing efficient, high-quality tire treads for truck and tractor tires.
- Analyzed manufacturing performance data to identify trends and areas for improvement.

EDUCATION

University of Siegen
MSc. Mechatronics *October 2021 - March 2025*

- *Relevant Coursework:* Machine Learning, Unsupervised Deep Learning, Introduction to C and C++, Embedded Systems, Mechatronics System Design, Project Management
- *Grade:* 2.2

University of Pune
Bachelor of Engineering in Mechanical *August 2016 - November 2020*

- *Relevant Coursework:* Mechatronics, Fundamentals of Programming Language in C, C++
- *Publications:* Design And Fabrication Of Electricity Generation System Using Railway Tracks", International Journal of Future Generation Communication and Networking
- *Grade:* 1.3

PROJECTS

- **Automated Load Condition Detection for Static Structures** *May 2023 - October 2023*
  Description: Designed and implemented a machine learning-based system for robust classification of sensor data, enabling the identification of 24 unique load conditions affecting static structures.
  – Prepare the labeled and unlabeled datasets from different sensors.
  – Develop models for analysis.
  – Achieves the highest model accuracy of 95 %

- **Improved Image Classification with AugMix and Multi-Optimizer Training (CIFAR-10)** *May 2023*
  Description: Investigated the effectiveness of AugMix data expansion and compared various Optimization strategies to improve image classification performance for the CIFAR-10 dataset
  – Trained ResNet-18 and ConvNeXt-T neural networks on the CIFAR-10 dataset.
  – Managed the dual optimizer strategy with AdamW and Stochastic Gradient Descent (SGD).
  – Utilized dynamic learning rate adjustment with LambdaLR and CosineAnnealingLR.

- **Anomaly detection using Auto-encoders** *January 2023*
  Description: Utilized AutoEncoder on Capsule dataset for early anomaly detection through latent space analysis. The project aimed to build a model for early detection of dataset irregularities.
  – Designed and implemented an AutoEncoder model for the Capsule dataset.
  – Trained the model to capture latent space features.
  – Conducted latent space analysis to uncover anomalies.

- **Designing a robotic arm for picking and relocating object** *November 2022 - January 2023*
  Description: Developing MATLAB code to control a LEGO Robot for the task of picking up balls and accurately placing them on stations with varying heights.
  – Writing and optimizing MATLAB code for precise control of a LEGO Robot.
  – Developing strategies to accommodate stations of varying heights, enhancing the robot's adaptability.
  – Testing and refining the code to ensure the reliable execution of pick-and-place tasks.

- **Development of a Railway Track-Based Electricity Generation Model** *Bachelor Arbeit*
  Description: Creating a novel railway track system capable of capturing electric energy, there by replacing conventional tracks. This energy can then be utilized for recharging batteries.

INTERESTS

- Hiking
- Swimming
- Gym