Personal Details

Phone: +4917697712721
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Address:
Cologne, Germany

Date of Birth:
December 13, 1999

LinkedIn

Technical Skills

Programming
- Python
- SQL
- C

Visualization Tools
- Power BI
- Tableau
- Microsoft Excel

Simulation Tools
- Simulink
- UniSim
- Power World
- Plant Simulator
- Innovator (BPMN)

Version Control
- GitHub
- GitLab

Languages
- English (Proficient)
- German (Basic)
- Urdu (Native)
- Punjabi (Native)

Hobbies
- Reading
- Fitness
- Cycling

Muhammad Ali

Data Science | Data Analytics | Mater in Automation and IT

Summary

Passionate data science student with a keen interest in data analysis and Machine Learning. Expert in building ML models and capable of providing data science solution with a skillset of programming and Engineering techniques.

Professional Experience

1) **Research Assistant as a Data Scientist** (November 2023 to Present)
University of Applied Sciences cologne
   - Projects based.
   - Data collection and preparation by creating data pipelines.
   - (ML,RL) Models Training, Transfer Learning.

2) **NOC Engineer – Data Management (DBMS)** (April 2022 to July 2022)
Associated with Huawei Company, Islamabad, Pakistan.
   - Data cleaning and informative visualizations of trends & patterns.
   - Oracle Database to store the data & Power BI for dashboard.
   - Performing data-driven investigations on network incidents and outages to identify root causes and prevent future occurrences.

3) **Trainee Engineer** (July 2019 to Aug 2019)
Chashma Hydal Power Plant, Chashma, Pakistan.
   - Collecting data from sensors and preprocessing
   - Developing and maintaining databases to store and manage large volumes of sensor data to cloud.

4) **Electrical Maintenance Engineer** (Sept 2021 to Feb 2022)
Bureau of Geophysical Prospecting (BGP), Krachi, Pakistan.
   - Electrical equipment's corrective and preventive maintenance along with equipment health monitoring and trending.
   - Installation and integration of electrical devices.

Projects

1) **Time-Series Forecasting of Energy Data** (Oct 2023 - Feb 2024)
Associated with Cologne University of Applied Sciences
   - Time-series data analysis, visualization & preprocessing pipelines.
   - Train forecasting models (i.e. LSTM) with Darts and TensorFlow.

2) **Data-Science-and-Visualization-Application** (Sep 2022 - Feb 2023)
Associated with Cologne University of Applied Sciences
   - Data analysis, smoothing, interpolation, and outlier recognition.
   - Classification and regression using AI and ML techniques, providing users with powerful predictive capabilities.
   - Graphical outputs using python language.

3) **AI-Model-for-Prognosis-Prediction** (Mar 2023 - May 2023)
Associated with Cologne University of Applied Sciences
   - Efficient data preprocessing, feature engineering, feature selection, and Implementation of neural network architecture.
   - Hyperparameter Optimization using the Optuna library.

4) **ML-Model-for-Prognosis-Prediction** **(Mar 2023 - May 2023)**
Associated with Cologne University of Applied Sciences

- RF model training for prognosis prediction in patients.
- Feature engineering to enhance model performance.
- Hyperparameter tuning with spotpython library.
- k-fold cross-validation to avoid overfitting.

4) **Object-Detection-With-YoloV8-model** **(Sept 2023 - Oct 2023)**
Associated with Cologne University of Applied Sciences

- Objects detection on real time basis to control the racing car based on detected sign boards.
- Data collection, labelling, and model training on custom dataset.
- Image detection using OAK camera as an edge device to deploy the model and data pipeline created by depthai.

5) **Reinforcement learning for seesaw** **(Oct 2023 – Feb 2024)**
Associated with Cologne University of Applied Sciences

- Preparing a reinforcement learning model to balance a ball in centre of rod on seesaw, the model will automatically learn from experiments without giving a labelled dataset. Punishment and rewards on each action taken.
- Image detection using yoloV8 model.
- And RL model to predict next action.
- PLCnext to control the angle of rod to control the moment of ball.

6) **Home automation with Mobile Application** **(April 2020 - May 2020)**
Associated with Riphah International University

- Developed a comprehensive home automation system with a mobile app using IOT devices, MQTT protocol for communication.
- Mobile app used to control various home devices and systems remotely.

Education

Master in Automation & IT | CGPA 1.9 **(October 2022 – Present)**
Technical University of Applied Sciences, Köln, Germany

- **Courses:** Energy Data analysis and Forecasting, ML and Deep Learning algorithms, Relational Databases (SQL), IIOT, ERP, MES systems, Data-Driven Modelling and Model optimization, Control Systems.

BS Electrical Engineering | CGPA 1.2 **(Sept 2017 to Aug 2021)**
Riphah International University, Islamabad, Pakistan

- **Courses:** Object Oriented Programming, C++, Electronic Devices & Circuit Analysis, IT Telecommunication, Microcontrollers, Power Systems, Power Electronics.

Certificates

- Learning Data Analytics: 1 Foundations
- Excel Data Analysis: Forecasting
- Power BI: Dashboards for Beginners
- Power BI Essential Training
- Designing Highly Scalable SQL DB
- SQL for Data Analysis