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Professional Summary

Results-driven Software Developer with over 4.5 years of experience designing and implementing C#, .NET Core, implementing advanced machine learning models to develop predictive models for industrial applications, and Azure-based solutions for industrial and cloud applications, specializing in Industry 4.0, Digital Twin technologies, and automation systems. Proficient in developing scalable web applications, RESTful APIs, and CI/CD pipelines using Azure DevOps and GitHub, with a focus on delivering data-driven insights for global clients in insurance and industrial sectors. Adept at leading cross-functional teams, mentoring junior developers, and adopting innovative technologies to drive project excellence, aligning with values of inclusion, curiosity, and teamwork.

Experience

11.2022 – *present* **IT Consultant**
saracus consulting GmbH
Objectives:

- Led the design of scalable Azure Cloud Solutions for a Swiss insurance client, utilizing Azure Virtual Machines, Blob Storage, SQL Database, and Azure Functions to optimize business processes, reducing costs by 15%.
- Automated folder-level external locations in Databricks Unity Catalog for file-based access to data lake containers using Python and PowerShell, enhancing data governance for a Swiss insurer by integrating Azure Databricks with role-based access controls.
- Developed and automated complex data pipelines using Python, PySpark, and Azure Databricks, processing large-scale datasets for risk assessment and fraud detection.
- Spearheaded Databricks Unity Catalog integration across workspaces using Terraform, automating access management with Entra ID and PowerShell scripts, and dynamically generating schemas with Python, enhancing data governance.
- Orchestrated end-to-end data workflows with Apache Airflow and Azure Data Factory, integrating Databricks notebooks for seamless task scheduling and execution.
- Established CI/CD pipelines with Azure DevOps, implementing version control best practices and enabling real-time Power BI visualizations from Databricks and Azure data sources for data-driven decisions.
- Managed project timelines and incident resolution using Jira and ServiceNow, mentoring a team of 5 data engineers and documenting architectures on Confluence for training and reference.

03.2021 – 10.2022 **Machine Learning Engineer and Software Developer**
ViewSystems GmbH
Objectives:

- Development and integration of AI-driven backend solutions into the IndustryView SF Software platform, employing .NET Framework, ML.NET, and .NET Core to deliver robust SaaS solutions tailored for industrial applications.
- Designed and deployed AI-driven backend solutions for IndustryView 5F Software using Python, .NET Core, and ML.NET, enhancing SaaS platform capabilities for industrial applications.
- Developed predictive models with Python and SQL for predictive maintenance and time-series forecasting, achieving 90% accuracy in industrial use cases.

- Led the development of RESTful APIs and web applications with ASP.NET, ensuring seamless data interoperability, and tested integrations using Python and Postman.
- Orchestrated Docker-based web application deployments, improving scalability, and created a mobile app with Microsoft PowerApps for remote data access.

10.2020 – 02.2021 **Industrial Engineer**
OBO Bettermann Group
Objectives:
- Implemented real-time data collection systems using Python and SQL, applying machine learning for predictive maintenance and process optimization in manufacturing.
- Evaluated operational processes for Industry 4.0 readiness, recommending data-driven improvements that increased production efficiency by 10%.

10.2019 – 09.2020 **Student Research Assistant**
Fachhochschule Südwestfalen Soest, Germany
Objectives:
- Research and development of various deep reinforcement learning and deep learning algorithms for different applications.
- Supervised a project with Bültmann GmbH with a team of 5 members for providing data visualization and machine learning solutions for their Prepeeling machine.
- Worked with ROS/Gazebo for developing robot models and simulating robot training using Reinforcement Learning.

Voluntary Work

09.2021 – 04.2022 **Data Science Mentor**
CorrelAid, Berlin
Objectives:
- Mentored 10+ students in data science and machine learning, guiding Python-based projects and fostering practical skills in model development and data analysis.

Education

04.2018 – 09.2020 **M.Sc. in Systems Engineering and Engineering Management** ***German Grade – 1.6***
Fachhochschule Südwestfalen, Soest, Germany
Focus areas: Machine Learning, Deep Learning, Reinforcement Learning, Advanced Control Technology, Advanced Production Engineering.
Other areas: International Project Management, Integrated Management and Business & Engineering, Modelling and Simulation of Mechanical Systems.

12.2019 – 09.2020 **Master Thesis**
Coordination of two Universal Robot (UR5) with Reinforcement Learning algorithm
German Grade – 1.0
- Developed a robot environment with Python, ROS/Gazebo for simulating the training of the robots.
- Designed a deep reinforcement learning agent using Proximal Policy Optimization and Actor-Critic to make the robot learn to reach random targets in the environment and evaluated the robot agent on new unseen targets.
- Trained two robots (with grippers) to coordinate and reach common target position for object transfer.
- Proved that traditional motion planning algorithms for robots could be learned and generalized over different tasks using reinforcement learning.

08.2013 – 05.2017 **Bachelor's in mechanical engineering**
German Grade – 1.6
Sri Sairam Engineering College, India
Focus areas: Machine Design, Production Engineering, Kinematics and Dynamics of Machines, Heat and Mass Transfer.

Academic Projects

1. **Identifying Pneumothorax Disease using UNet – CNN**
   Designed a UNet using CNN for Image Segmentation on X-ray images of chest provided by SIIM to detect pneumothorax disease.
2. **Detecting Building Footprints in Satellite Imagery (Spacenet7 Challenge)**
   Trained a neural network to perform image segmentation for detecting building footprints in satellite images. The dataset comprised of over 40,000 km^2 of imagery and exhaustive polygon labels of building footprints in the imagery.
3. **ArcFace Training with LFW (Labelled Faces in the Wild) Dataset.**
   Implementation of the ArcFace (Additive Angular Margin Loss for Deep Face Recognition) training and loss logic evaluation to assess how well the method works in the little-data setting.
4. **Classification and Localization of infection in the infected parasite cells**
   Developed a classifier to classify the infected cells from the uninfected ones and designed a localization technique using CV to correctly localize the area of infection.
5. **Motion Control of a Peristaltic Sorting Machine (PSM) using Reinforcement Learning**
   Developed a reinforcement learning agent for an actuator of the PSM machine using Actor-Critic algorithm to reach random parcel position in the most efficient way.
6. **Coordinating Two Industrial Robots for a pick and place task.**
   Coordinated two industrial robots using ROS / Gazebo with a master-slave architecture. The robots were equipped with a camera sensor for detecting objects in the environment.

Certifications

1. **Azure Databricks,** Data Engineer Associate
2. **Deep Learning Specialization,** *deeplearning.ai, Coursera.*
3. **Reinforcement Learning Specialization**, *Alberta Machine Intelligence Institute, Coursera*
4. **Deep Neural Networks with PyTorch**, *IBM Coursera*
5. **Convolution Neural Networks in TensorFlow**, *DeepLearning.AI*
6. **Python Programmer**, *Datacamp*

Skills

- **Skillset:** Data Science, Data Engineering, Supervised Machine Learning & Deep Learning, Statistical Modeling, Deep Reinforcement Learning.
- **Programming Languages:** Python, SQL, C#, Docker, ROS, MATLAB & Simulink, Shell.
- **Python-Libraries**: Pyspark, Databricks-CLI, PyTorch, TensorFlow, Keras, Scikit-Learn, Numpy, Pandas, Multithreading, Multiprocessing, Plotly, Seaborn, Matplotlib, Streamlit, Django, Flask, Rospy.
- **Cloud-Tech & Version Control:** Microsoft Azure, Azure DevOps, Azure Databricks and CI/CD, Apache Airflow.
- **ETL Tools:** Databricks, IBM DataStage, SAS Data Integration Studio, MS SQL Server Integration Services (SSIS).
- **Dotnet Libraries:** .NET Framework, .NET Core, ASP.NET, ML.NET
- **Tools and Technologies:** PowerBI, Microsoft Visual Studio**,** SQL Server, MSSQL**,** Microsoft Visual Studio Code**,** ROS**,** Spyder, PyCharm, Anaconda, Sublime Text, Jupyter Notebook, GitHub, AutoCAD, Catia V5, MS Office, MS Project.
- **Operating Systems:** Windows, Linux (Ubuntu), MacOS, AIX.
- **Interpersonal Skills:** Public speaking, Leadership, Team player, Adaptability, Confident.
- **Languages:** English (Fluent), German (B2), Hindi, Tamil, Guajarati, Urdu.

Hobbies

- Reading, Running, Badminton, Travelling.