Vivek Padayattil

Curriculum Vitae

Data Scientist with a strong foundation in Mechatronics, Machine Learning, and MLOps. Experienced in analyzing and visualizing sensor-based health and wellness data to extract actionable insights. Skilled in building and optimizing MLOps pipelines, deploying models, and improving development workflows. Proven ability to collaborate effectively across product, marketing, and software teams. Certified Azure Data Scientist Associate.

Personal Information

Date of Birth	May 12th, 1994
Gender	Male
Nationality	Indian
Visa	Blue Card
Address	Markgrafenweg 4, Günzburg 89312
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Experience

Work Experience

06/2023 - Present **Data Scientist,** *VitaScale GmbH,* Mainz, Germany

Project 1: Breath Alcohol Detection System

- Simulated and analyzed test series for automotive and medical applications using Famos and Python; managed sensor data using MySQL
- Developed a continuous blood alcohol concentration prediction model using electrochemical sensors with 88% accuracy
- Built and managed ML lifecycle using MLflow; implemented CI/CD workflows for preprocessing and training
- Created desktop GUIs using PyQt and Tkinter to extract and visualize sensor data

Project 2: Marketing Analytics & Automation

- Developed a Flask-based automation integrating Calendly with MailerLite, hosted on Render, and analyzed audience behavior to optimize Meta ad campaigns using A/B testing.
- Designed and iteratively improved a data-driven landing page that contributed to crowdfunding success.

Project 3: Enterprise-grade RAG-based Chatbot

- Developed a Retrieval-Augmented Generation (RAG) chatbot by scraping websites.
- Deployed the system on Azure, enabling scalable and secure enterprise access.

07/2016 - 08/2018 **Procurement Engineer,** *Furnace Fabrica India Ltd,* Navi Mumbai, India

- Demonstrated sound expertise in inventory management, ERP systems, and quality control
- Successfully spearheaded procurement plans, vendor development, and departmental coordination for multiple national and international projects

Research and Projects

02/2022 - 11/2022 **Master Thesis,** *FPGA Prototype of Neural Network Based Cardiovascular Disease Detection for Rescue Patients*, University of Siegen

- Built and deployed a neural network on Pynq Z2 using Apache TVM for real-time prediction
- Visualized key metrics using Tableau and implemented model comparison (ANN vs. SVM, GBM, RF)

09/2020 - 08/2021 **Master Project,** *Deep Embedded Clustering of Bars and Wires Hot Rolling Parameters*, University of Siegen

- Clustered hot rolling process parameters using Deep Embedded Clustering architecture; implemented unsupervised learning for material classification

Audio transcription tool(Github)

- Developed a Django-based tool using Hugging Face model; deployed on Render with CI/CD automation using GitHub Actions

Sentiment Analysis App(Github)

- GUI app with Tkinter for classifying tweet sentiment using NLP features and ML classifiers

Education

2018 - 2022 **Master of Science in Mechatronics,** *University of Siegen, Germany*

2012 - 2016 **Bachelor of Engineering in Mechanical,** *Univeristy of Mumbai, India*

Technical Skills

Languages	Python, SQL, Matlab, C++
AI/ML	Pandas, Apache Spark, Numpy, Scikit-learn, TensorFlow, PyTorch, Keras, Hugging Face, LangChain, NLTK
Cloud & DevOps	Azure, MLflow, Docker, GitHub Actions, Git, Render, Pinecone, REST APIs, Kubernetes
Frameworks	Django, Flask, PyQt, Tkinter, Streamlit
Visualization	Tableau, Seaborn, Matplotlib, Plotly
Tools	Git, Linux, Carrd, Agile-SCRUM, Latex, Microsoft Office
AI Hardware Inference	Apache TVM, Vitis AI

Languages

Fluent	English, Malayalam, Hindi, Marathi	
Intermediate	German (B1/B2)	Fluent in communicative aspect

Courses and Licences

- Azure Data Scientist Associate *(Microsoft Certified)*
- Neural Networks and Deep Learning *(Coursera)*
- Convolutional Neural Network *(Coursera)*

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