

# Mohammad Ayaz Alam

(+49) 017684051947 | alam.ayaz47@gmail.com | github.com/rebel47 | linkedin.com/in/ayaz-alam

## SKILLS

Programming & Data Science:	Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, PyTorch, Jupyter), R
Generative AI & NLP:	LLMs, LangChain, Fine-Tuning, RAG, Llamaindex, Prompt Engineering, Hugging Face
Databases & Big Data:	SQL, PostgreSQL, Database Design, Query Optimization, MongoDB, Apache Spark
Data Visualization & BI Tools:	Tableau, Power BI, Plotly, Dash
Web Development & APIs:	Django, Flask, FastAPI, RESTful APIs, HTML, CSS, JavaScript, Bootstrap, Tailwind
DevOps & Tools:	Docker, Kubernetes, Git/GitHub, CI/CD Pipelines, Linux/Unix
Machine Learning & Analytics:	Supervised/Unsupervised Learning, Feature Engineering, Model Evaluation, XGBoost, TensorFlow
Productivity Tools:	MS Excel (Advanced), MS Word, MS PowerPoint, LaTeX

## EXPERIENCE

**Institute for Employment Research, Machine Learning Researcher** | Nuremberg, Germany Nov 2024 - Feb 2025

- Applied ML techniques (XGBoost, Random Forest, SVM, PU learning) to forecast labor market trends and job suitability.
- Built scalable data pipelines for preprocessing and feature engineering on 90M+ records.
- Addressed class imbalances through weight estimation, improving model robustness and accuracy.
- Developed predictive models to rank job offers, aiding caseworkers in pre-selecting opportunities.
- Delivered insights on labor market dynamics through reports and stakeholder presentations.

**Shape AI, Business Development Intern** | Delhi, India Mar 2021 - Oct 2021

- Performed data analysis using Power BI, extracting actionable insights from sales data to drive business decisions.
- Developed dashboards and visualizations to clearly communicate key metrics across the organization.
- Designed a data-backed course structure for the winter training program, boosting engagement and enrollment.
- Contributed to a marketing project by analyzing target audience behavior, improving course promotion strategies.

**Hoda Engineering Works, Web Developer Intern** | Delhi, India Sept 2020 - Jan 2021

- Built responsive websites using HTML, CSS, Bootstrap, and JavaScript, ensuring performance and cross-browser support.
- Performed testing and debugging on various devices, improving user experience and accessibility.
- Optimized JavaScript and CSS for faster load times, boosting website interactivity and performance.
- Adopted modern web frameworks and best practices, driving continuous improvements in development processes.

## PROJECTS

**Fine-Tuned GPT-2 for Poetry Generation with RL**

- Developed a poetry generation model by fine-tuning GPT-2 (124M) on Gutenberg poetry dataset, leveraging Reinforcement Learning (RL) to enhance stylistic quality and coherence.
- Designed and implemented custom reward functions for rhyme, coherence, and creativity to enhance poetic quality.
- Used Transformers for efficient model training with adaptive learning rates and policy gradients.
- Uploaded the model for public access and inference on huggingface.

URL: ayazfau/GPT2-124M-poetry-RL

**RAG Chatbot for Emulating Chat Tone and Personality**

- Built a RAG chatbot with Python, Streamlit, and Gemini Pro API for personalized conversation emulation.
- Integrated FAISS and LangChain for efficient similarity search and context retrieval from WhatsApp chat history.
- Designed a persona-based response system ensuring consistent tone across conversations.
- Developed an intuitive UI with real-time chat, multi-session support, and persona configurations.

URL: persona-chat.streamlit.app

**Biller - Your Friendly Bill Management System**

- Built a full-stack expense management system with Streamlit, Python, and Gemini AI for OCR-based receipt processing.
- Integrated Supabase for secure authentication, PostgreSQL storage, and real-time data synchronization.
- Designed interactive analytics with Plotly, automated expense categorization, and a RESTful API.
- Leveraged pandas for data analysis, providing dynamic financial insights via an intuitive dashboard.

URL: biller.streamlit.app

## CERTIFICATES

Huggingface - AI Agents Fundamentals - Agents fundamentals, Tools and Action, Agents Workflow

iNeuron.ai - Full Stack Data Analytics - Python, SQL, Snowflake, PowerBI, DAX, Excel

iNeuron.ai - Deep Learning Foundation - Neural Network, Backpropagation, CNN

Kaggle - Intro to Machine Learning - Model Validation, Underfitting-Overfitting, Random Forest

freeCodeCamp - Data Analysis with Python - Numpy, Pandas, Data Cleaning

## EDUCATION

**Friedrich-Alexander-Universität Erlangen-Nürnberg, MSc. Data Science** | Erlangen, Germany Oct 2022 - Present

- Courses: Business Analytics, ML Time Series, ML in Finance, Mathematics of Learning, Linked Data

Aug 2018 - Sept 2021

**Guru Gobind Singh Indraprastha University, Bachelors of Computer Applications** | Delhi, India

- Courses: OOPs, Network Security, DBMS, Web Technologies, Data Warehousing and Data Mining

## Languages

English	Professional proficiency
German	Intermediate proficiency
Hindi & Urdu	Native proficiency