europass

Muhammad Afnan Qasim

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ABOUT ME

AI and Machine Learning Engineer with a focus on **NLP**, my contributions have not only enhanced the capabilities of AI but have also led to groundbreaking **cost efficiencies**. My development of the **FEDml** architecture is a testament to this, significantly reducing operational expenses by optimizing resources, a move that revolutionized cost management in AI deployments. With a strong foundation in technologies like **TensorFlow**, **Keras**, and Docker, I'm driven by the challenge of merging technical innovation with fiscal responsibility, ensuring the advancement of AI technologies is both powerful and economically viable.

WORK EXPERIENCE

JAN 2024 – CURRENT Chicago, United States

MACHINE LEARNING ENGINEER (NLP SPECIALIST) DREAM SLEEP

- Developed **FEDml** architecture to surpass **GPT-3.5** in emotional intelligence benchmarks.
- Utilized **PEFT** to enhance AI emotional intelligence for more empathetic interactions.
- Reduced GPU costs by **60%**, saving the company approximately **$2 million**.
- Directed agile projects with cross-functional teams, optimizing project outcomes.
- Documented advancements, boosting the company's **R&D** efforts.

MAR 2023 – JAN 2024 Lahore, Pakistan

NLP ENGINEER KYAAS SOLUTIONS

- Fine-tuned Hugging Face models for project-specific needs.
- Showcased **Python** expertise in **API** development with **Flask** and multi-processing.
- Implemented ML algorithms using **TensorFlow**, **Keras**, and **PyTorch** for NLP initiatives.
- Enhanced NLP model performance, driving technological progress.
- Leveraged **Kubernetes** and **Docker** for improved project deployments.
- Enabled smoother model integration into production, boosting efficiency.
- Optimized existing models, enhancing their effectiveness.
- Utilized transformers and **NLP** libraries to advance data processing.

OCT 2022 – MAR 2023 Lahore, Pakistan

JUNIOR MACHINE LEARNING ENGINEER CREATIVE SOULS

- Support data collection, cleaning, and **preprocessing** tasks.
- Collaborate with senior ML engineers on feature engineering and model development.
- Assist in model **testing**, **evaluation**, and results documentation.
- Actively learn and expand ML knowledge through **research** and hands-on tasks.
- Maintain data pipelines, follow coding standards, and contribute to team meetings with enthusiasm.

PROJECTS

JAN 2024 – CURRENT

LLM PEFT Training

- Developed **FEDml** to enhance **LLM** training, outperforming GPT-3.5 by **12%**.
- Incorporated **PEFT** for richer emotional AI interactions.
- Improved AI emotional intelligence, enabling empathetic interactions.
- Cut GPU costs by **60%**, saving **$2 million**.
- Boosted R&D through agile collaboration and innovative methodologies.

MAY 2023 – AUG 2023

Chatbot-Rag

- Implemented a **chatbot** with Google **Flan-T5** transformer.
- Preprocessed text for **Hugging Face** embeddings.
- Built and utilized a knowledge base for query responses.
- Deployed the system on **Streamlit**, enhancing user interaction.
- Achieved a **20%** improvement in query response accuracy.

FEB 2023 – MAY 2024

Text-Generation

- Developed a **text generation** web app for story creation from user prompts.
- Leveraged transformer models and **NLP** for dynamic storytelling.
- Enabled real-time narrative development via an interactive interface.
- Deployed on **Streamlit** for easy web access.
- Fostered user creativity and storytelling engagement.
- Enhanced operational efficiency, reducing server costs by **15%** through optimized model deployment.
- Improved content generation speed, achieving a **12%** reduction in response time for user inputs.

DEC 2022 – FEB 2023

Career-Prediction

- Successfully obtained semi-supervised data comprising 6 thousand rows, with 50 labeled rows.
- Cleaned the data and applied feature engineering techniques for further analysis.
- Conducted **Exploratory Data Analysis** (EDA) to gain insights and understand the data distribution.
- Employed hierarchical, **DBSCAN**, and K-means clustering models for unsupervised learning.
- Deployed the project on Streamlit, enabling users to input numeric values for 15 features.
- Utilized the K-means model to predict the user's most suitable career based on the provided inputs.

DIGITAL SKILLS

Google Drive | Microsoft Office | Machine LearningAI | NLP libraries: NLTK, SpaCy | Pytorch,Tensorflow | Deep Neural Networks (CNNs, GANs) | Python - Deep Learning (tensorflow2, pytorch, transformers) | Google colaboratory | ML Model Deployment | time series forecasting | Clustering, k-NN

EDUCATION AND TRAINING

22 JUL 2020 – 26 MAY 2024 Lahore, Pakistan

BS COMPUTATIONAL PHYSICS Univrsity of the Punjab

APR 2023 – JUN 2023 lahore, Pakistan

AMAL CAREER-PREP FELLOWSHIP Amal Academy

GENERATIVE AI WITH LARGE LANGUAGE MODELS DeepLearning.AI

PYTHON FOR DATA SCIENCE AND MACHINE LEARNING BOOTCAMP Udemy

ARTIFICIAL INTELLIGENCE (MACHINE LEARNING & DEEP LEARNING) National Vocational and Technical Training Commission NAVTTC

MICROSOFT CERTIFIED: AZURE AI FUNDAMENTALS Microsoft

HCIA-BIG DATA Huawei

LANGUAGE SKILLS

Mother tongue(s): **ENGLISH**