



Muhammad Hammad

Skilled Machine Learning Engineer



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Why *Hammad*?

- Conscientious and proficient professional having technical knowledge and skills of programming, machine learning, data analysis, data mining, and database management; proficient at training & evaluating AI models, designing NLP application and using effective text representations to transform natural language into useful features
- Diligent individual capable of developing NLP systems according to requirement, building predictive models & machine-learning algorithms, and finding and implementing effective tools and algorithms; able to present information using data visualization techniques, and develop solutions/strategies to optimize efficiency
- Dynamic individual possessing outstanding investigative, analytical, problem-solving, communication and interpersonal skills to maintain optimal performance. Dedicated person willing to learn and stay updated on developments in data science and machine learning and ready to work and perform in target driven environment

CORE STRENGTHS & ENABLING SKILLS

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|----------------------------------|--------------------------------|---------------------------------------|
| ▪ Machine Learning Engineering | ▪ Testing & Debugging | ▪ Analytical Skills |
| ▪ Software Development Lifecycle | ▪ Responsive Design Management | ▪ Technical Reporting Skills |
| ▪ NLP System Development | ▪ Data Analysis & Mining | ▪ Team Building & Leadership Skills |
| ▪ Application Development | ▪ Research & Development | ▪ Communication & Presentation Skills |

TOOLS & TECHNOLOGIES

| Python, JavaScript, PHP, C#, C++ | Machine Learning, Deep Learning & Natural Language Processing | Classification, Regression, Clustering, Scrapy, BeautifulSoup & Selenium | Scipy, Sklearn, Tensorflow, Keras, NLTK, Numpy, Pandas & Matplotlib | Amazon Web Services (AWS) | MySQL, MSSQL, MongoDB & Firebase | Rest APIs (Flask) | HTML5, CSS3, React JS, JavaScript, JQuery & Ajax | Github & Gitlab

PROFESSIONAL EXPERIENCE

Machine Learning Engineer / AI Developer

Turing.com – Remote

April 2024 – Present

- Spearheaded the development and optimization of a cutting-edge LLM-based system designed to **train data analysts** by integrating intelligent query understanding and adaptive learning pathways.
- Engineered robust **natural language processing (NLP)** pipelines to transform unstructured business queries into actionable data insights using state-of-the-art language models.
- Collaborated with cross-functional teams to **fine-tune LLM models** on domain-specific datasets, significantly improving response accuracy and contextual relevance for real-world data analytics tasks.
- Designed and executed **prompt engineering strategies** to enhance model performance, tailored to specific analytical intents and workflows in a **multimodal AI pipeline**.
- Led evaluation of generated outputs across different models using custom scoring metrics and human-in-the-loop feedback systems to determine the most contextually accurate responses.

Full Stack Software Developer

Zaytrics (Pvt.) Limited, Islamabad, Pakistan

January 2021 – June 2023

- Developed intelligent PDF processing tools in Python to **extract highlighted text** and implemented **header/footer detection and removal algorithms** for cleaner document parsing.
- Built and trained **machine learning models** for **text classification** using techniques such as **TF-IDF, Word2Vec, SVM, and Random Forest**, tailored for domain-specific content.
- Implemented **extractive summarization** using **Latent Semantic Analysis (LSA)** and **abstractive summarization** with **Seq2Seq (Encoder-Decoder)** models trained on the CNN/DailyMail dataset.
- Designed and deployed **RESTful APIs** using **Python (Flask)** and **Node.js (Express)**, integrating with **React.js** frontends and **custom stored procedures** for generating dynamic CSV reports.
- Created secure and scalable **cloud deployments** using **AWS EC2** and **FastAPI (Ray Cluster)** for high-performance AI inference workloads.

PROFESSIONAL PROJECTS

- ✓ Mental health analysis of People using tweets in Covid-19
- ✓ Created text analysis software to work on 11 different right-to-left languages
- ✓ Currently working on comparative study on importance of similarity matrices in Abstractive Text Summarization
- ✓ Developed an ecommerce web scraper for price comparison across platforms like Amazon and eBay.
- ✓ Attendance system using speech recognition
- ✓ Email scrapping from web directories
- ✓ Implemented abstractive summarization using seq2seq model (Machine Translation Algorithm) on CNN & Dailymail news dataset
- ✓ Engineered an order tracking system using web scraping, integrating website data with API and Airtable for efficient tracking.
- ✓ Innovated a pure JavaScript graphics library for websites, enabling the creation of simple flow diagrams with shapes and text.
- ✓ Implemented a web scraper with a tree-based data structure to identify and trace invalid/error pages on a specific website.
- ✓ Designed a mobile app that scans food item barcodes, retrieves ingredient information via API, and utilizes ChatGPT for health definitions.

PROFESSIONAL EDUCATION

- **Air University Islamabad, Pakistan (2020 - 2023)**
MS – Data Science
- **Air University Islamabad, Pakistan (2016 - 2020)**
BS – Computer Science

Journal Publication

- ✓ Authored a research publication titled 'Comparative Evaluation of Text Similarity Metrics for Enhanced Abstractive Summarization on CNN/Dailymail Corpus' investigating and analyzing various text similarity metrics to improve abstractive summarization on the CNN/Dailymail Corpus in the Journal of Computational Biology and Informatics (JCBI)

Multan, Pakistan
