Muhammad Usman

**Senior Consultant – Data Science**

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| **CAREER OBJECTIVES**  A professional with a solid technical background in implementing and communicating analytical solutions. An adept problem solver can quickly grasp complex problems and doesn't give up on difficult ones. I have developed numerous data solutions in machine and deep learning. As a Senior Data Scientist, I have expertise in deep learning, NLP, LLM, and transformer models.  **PROFESSIONAL SUMMARY**   * Over 5 years of experience in data science and software engineering, specializing in developing data-driven solutions for business intelligence and decision-making. * Proven expertise in machine learning and deep learning, including web scraping, recommendation systems, NLP, and computer vision. * Extensive experience with AWS cloud services, including AWS Sagemaker, AWS Lambda. * Proficient in deploying and maintaining machine learning models and solutions, with a focus on optimizing performance and reducing costs. * Strong background in developing solutions using advanced techniques such as LLMs, OCR, object detection, and emotion detection from video feeds. * Adept at collaborating with cross-functional teams to ensure that solutions meet business requirements and deliver measurable results. * Skilled in Python programming and experienced with various frameworks and libraries such as TensorFlow, Scikit-Learn, NLTK, NumPy, Pandas, Keras, OpenCV. * Proven ability to outperform existing APIs and models through innovative approaches and empirical testing, achieving superior accuracy and performance. |
| **TECHNICAL TOOLS AND TECHNOLOGIES** |
| |  |  | | --- | --- | | **Expertise** | **Tools/Technologies** | | **Languages** | Python | | **Databases** | SQL, PostgreSQL | | **ML Techniques**  **Computer Vision**  **NLP**  **Libraries/Tools** | Regression, Classification, SVM, Decision Trees, KNN, XGboost, LGBM, Ensemble Methods.  Object Detection and Tracking, Object Classification, Image Segmentation.  Text classification, Text Summarization, Text Generation, Sentiment Analysis, NER  Spacy, NLTK, Hugging Face, OpenAI, AWS (Amazon S3, Sagemaker, EC2, Lambda), Keras (TensorFlow), SkLearn, Pandas, NumPy, Matplotlib, Seaborn, Ploty, Pytorch, OpenCV, Flask, Git, Jira, OCR, RASA, PyTest, Bitbucket. | |
| **Work Experience**  **VIsionet inc.**  **Dates:** SeP 23 - present **Job Title:** Senior Consultant – Data Science   * Engineered a predictive modeling solution to enhance customer engagement with email marketing campaigns. * Trained sophisticated predictive model to assess the probability of a customer clicking on specific types of marketing emails. * Orchestrated the creation of an extensive feature set, encompassing demographic details, product attributes, transactional behavior, and email metrics, totaling approximately 400 dimensions. * Implemented XGBoost to predict the likelihood of a customer opening a specific email type within the next seven days. * Developed a solution using AWS Bedrock LLMs (Anthropic Claude, AI21 Jurassic, Cohere Command) with a RAG-based approach using AWS Kendra and OpenSearch. * Deployed on AWS Lambda with CICD using Bitbucket and AWS CodeBuild, and the REST API is exposed through AWS API Gateway. This solution aids agents in reducing AHT, increasing customer satisfaction, and saving the company $900,000 annually.   **Techverx** **Dates:** AUG 21- SEP 23 **Job Title:** Senior Data Scientist   * Developed Entity recognition from investment and fund documents to generate their unique tickers. * Worked on OCR system for Medical Devices and documents to extract medical terms and their vital information. * Implemented object segmentation models to extract client-specific information from personal documents. * Collaborated with cross-functional teams to understand business requirements and ensure solutions meet those needs. * Optimized the workflows and pipeline for seamless training and testing process for different models for identity verification process. * Build customized models to achieve the highest possible accuracy and reduce the prediction time of models by pruning the layers across the models.   **Programmer’s force** **Dates:** AUG 19- AUG 21 **Job Title:** Data Scientist   * Outperformed results of AWS Rekognition for face recognition using a siamese network approach. Leveraged Amazon SageMaker for model training and optimization, improving accuracy and robustness. * Exceeded benchmark results for face liveness detection for video sequences. * Implemented state-of-the-art object tracker and custom face detector. * Trained tree-based Zeroshot Convolutional Neural Networks (ZCNN) followed by a novel LSTM model on in-house curated datasets. Identified various types of spoof attacks whilst surpassing human-level performance. * Built a custom OCR API that outperformed Google OCR both in accuracy and latency. Perfected noise removal through empirical testing of various Computer Vision tools. |
| **EDUCATION AND QUALIFICATIONS**  **Bachelor's in software engineering**  University of PUNJAB, Pakistan |