DAWOOD TAHIR

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SUMMARY

AWS Certified Machine Learning Engineer with over 2 years of experience in computer vision and AI projects. Skilled in developing innovative solutions, such as real-time traffic analysis and sports analytics using YOLOv8, and enhancing AI systems with hierarchical clustering techniques. Proven track record of leveraging AWS technologies for deploying AI applications. Expertise in transforming complex datasets into actionable insights demonstrates a strong ability to deliver valuable contributions, ready to elevate efficiency and accuracy for any forward-thinking organisation.

WORK EXPERIENCE

ML Engineer, CodeLens, London , UK

09/2024 – Present

- Researched and developed a football analytics pipeline for player and pitch understanding. Trained a YOLOv8 detector to identify players from two teams. Estimated 2D ball positions using pitch keypoint–based homography, producing a game-like end product that visualises players and ball possession over time. Evaluated the system using mAP@0.5 and tracking accuracy to be 77%.
- Built a real-time vehicle speed-estimation system for a highway using a single camera input. Streamed live video via AWS Kinesis and processed frames with AWS Lambda to match the FPS of a custom vehicle-detection model. A homography transformation for speed calculation directly in image space. SageMaker was used for CI/CD and provisioned with IaC. Achieved 81% accuracy.

Data Scientist, Psi-Square, Lahore

04/2024 – 09/2024

- Developed a computer vision pipeline to calculate traffic dwell duration in predefined zones for live video feeds. Implemented system-clock–based time-in/time-out logic instead of FPS-dependent timing, and integrated Roboflow's ByteTrack for low-latency multi-vehicle tracking. Achieved 85% tracking accuracy and 0.79 mAP on evaluation footage.
- Developed a multi-agent, orchestrated LLM research system with integrated voice-model interaction, secured via AWS Cognito and backed by Aurora for persistent conversation history. Implemented a Graph-RAG reasoning mode for complex, relationship-aware retrieval. it was evaluated using metrics of Precision/Recall of 91/83 %, Context-Relevancy (CR), Answer-Faithfulness (AF), and Hallucination Rate.

AI Engineer, OMNO AI, Lahore
05/2023 – 02/2024

- Successfully improved RAG chunks by making hierarchical clusters of chunks. starting from the base node and chunks , to calculate embeddings between simultaneous chunks and moving down the tree the same way. this helped the final customer bot be more relevant in answering the questions.
- Got proficient in using AWS EC2 instances to deploy and upscale an AI ad creation app. Developed a workflow to scrape through brand websites to get the text and imagery details. these were processed by an LLM Agent specified to extract brand call-to-action (CTA) button text, header text and punchline. Leveraged generative AI to create a seamless ad Banner on required size with the given text types.

EDUCATION

MSc, Robotics, AI & Autonomous Systems, CITY, UNIVERSITY OF LONDON, UK
09/2024 – 10/2025

- Grades: 1st

BSc, Mechatronics Eng., UET, LAHORE, Pakistan
10/2019 – 05/2023

- GPA: 3.116 / 4.0

SKILLS

- Python
- CI / CD
- Dockers
- AWS Lambda
- TerraForm
- LoRA
- Drones SLAM
- MCP Tools
- Teamwork
- SQL
- Tableau
- n8n
- Rlib
- AgenticAI
- Diffusion Models
- AWS SageMaker
- AWS EC2
- Git
- Kubernates
- AWS ETL Tools
- Computer Vision
- Deep RL
- Project Management
- Effective Communication
- PowerBI
- Langchain
- PettingZoo
- MAPPO
- ByteTrack
- IaC

REFERENCES

Dr. A.H Zenati
SST, City, University of London
Abdelhafid.Zenati@citystgeorges.ac.uk

Collaborated on GAT networks for drone swarms for Safer flight and communications by MARL

Dr. Ahsan Naeem
Mechatronics Department, UET Lahore
mahsan.naeem@gmail.com

Worked together on numerous projects within the Mechatronics curriculum, facilitating valuable exchanges of knowledge and insights.

PROFESSIONAL CERTIFICATIONS

AWS Certified ML Engineer - Associate
09/2025