#### ZAIN UL ABDIN ARSHAD

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#### **CAREER OBJECTIVE**

High-Potential Machine Learning Engineer with 6 months of hands-on expertise in architecting and deploying end-to-end AI solutions. Core competency lies in leveraging Python, Natural Language Processing (NLP), Computer Vision, and Generative AI for innovation, coupled with a practical understanding of MLOps principles (including containerization) and cloud platforms like AWS/Azure/GCP. Eager to transition high-performing models from R&D to production in an Entry-Level ML Engineering or Data Scientist role, aiming to deliver measurable business impact.

#### **EDUCATION** – The University of Lahore.

October 2021 – July 2025

- Bachelor of Science in Computer Science BSCS -> Graduated in August 2025
- Relevant Coursework: Object-Oriented Programming, Data Structures, Web Programming, Artificial Intelligence, Machine Learning, NLP, Generative AI, Deep Learning, Artificial Neural Networks.

### **CERTIFICATIONS**

- AWS Certified Machine Learning Engineer
- AWS Certified Introducing Generative AI
- Generative AI LinkedIn Learning
- Transformer LLMs OpenAI
- Neural Networks and Deep Learning Coursera (Stanford University)
- **Python Programmer** Cisco
- Python Programming Fundamentals Microsoft Learn
- Generative AI with LLMs Amazon Web Services (AWS)
- **Kaggle Batch** for Python Programmer

#### **EXPERIENCE**

### AI/ML Intern — Octaloop Technologies.

Jan 2025 - March 2025

- Spearheaded the initial Data Workflow, including preprocessing, feature engineering, and rigorous Exploratory Data Analysis (EDA), to ready complex datasets for model training, explore Django with Beginner Projects development.
- Collaborated with the senior team to Train and optimize ML workflows, contributing to codebase efficiency using Python and advanced libraries such as PyTorch, Matplotlib, and Seaborn and Created my own full fledge project of Deep learning and CV.
- Engineered and implemented scalable machine learning pipelines using Pandas, NumPy, Scikit-learn, and TensorFlow, ensuring successful training, testing, and deployment of models into production environments.

# **PROJECTS**

KidTracker App (FYP) — Fast API | MongoDB | FaceNet | Flutter | Dart | Python | Machine Learning

- Engineered a complete, real-time Facial Recognition System by fine-tuning the FaceNet 512 model on a dataset of 6,000 images (5k training, 1k validation), achieving a high 91% recognition accuracy.
- Developed the end-to-end application architecture, building the backend using FastAPI and MongoDB, and the responsive frontend using Flutter and Dart.

AI-Powered-Image-Captioning-and-Search-API — Fast API | Sqlite3 | Python | NGrok | Hugging-face Models |

• Designed and deployed a comprehensive Streamlit web application that enables users to upload images, generating AI-powered captions and embeddings for storage in a MongoDB database; facilitated a prompt-based image retrieval system to fetch relevant content using ML embeddings.

#### Classification-and-segmentation-based-computer-vision-Models

• **Developed** a custom **Computer Vision model** for object attribute prediction (gender, shirt color, and glasses), using data fetched via Selenium web scraping. Successfully trained the model despite using a **small dataset**, demonstrating resource optimization and effective model handling.

#### AI Resume Optimizer (Hugging Face Pretrained Model) — Streamlit | Hugging Face Model | Spacy

- Engineered and deployed an NLP-based Resume Optimization Tool (Live Demo: [Demo Link]) that analyzes resumes against job descriptions, providing real-time scoring, job-role matching, and keyword optimization insights.
- **Developed** the complete solution using a robust tech stack, including **Python**, Streamlit for the user interface, and **Scikit-learn/Spacy** for core natural language processing functionalities.

Logistic Based Voice Caller

Depression prevention Chatbot (Hugging Face Pretrained Model) — Provide assistance

REST API Integration with Gemini & Llama Models — LSTM | Seq2Seq | Attention Mechanism

AI Agent System (GenAI) — NLP | Agentic-Based Architecture

## **TECHNICAL SKILLS Languages**

11 Labs, Scraping, Deep Learning & Frameworks PyTorch, TensorFlow, Keras, Hugging Face Transformers, LangChain, Computer Vision, OpenCV, YOLO, ResNet, EfficientNet, Vision Transformer, Roboflow, Natural Language, Processing LLMs, Agentic AI, Generative AI, Spacy, Seq-to-Seq Modeling, Core Languages & Libraries, Python, C/C++, Node.js, Pandas, NumPy, Scikit-learn, Databases & Back-end, FastAPI, Django, Streamlit, MongoDB, MySQL, Postman, Swagger UI, MLOps & Cloud AWS, Git/GitHub, Docker (Implicit), SDLC (Agile/Waterfall), Testing Tools & Analytics Jupyter Notebook, VS Code, Tableau (Basic), Power BI, SQL.