MUHAMMAD TALHA YOUSAF

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SUMMARY

Results-oriented Software Engineer with 3 years of experience in backend development, AI integration, and building scalable applications. Proficient in Python, Django, FastAPI, and Flask, with a strong focus on creating efficient and maintainable solutions. Skilled in developing and deploying generative AI models, including GANs, for innovative projects. Passionate about solving complex problems and contributing to impactful, data-driven software solutions.

EXPERIENCE

03/2021 to 06/2021

Business Analyst (Intern)
Dolphins Analytics - karachi, Pakistan
- Supported stock and market analysis by building Flask-based applications, and Power BI dashboards.
- Collaborated on data visualisation projects to generate insights for market trends.
- Assisted in developing and testing analytical tools, ensuring data accuracy and consistency.

10/2021 to Current

Application Software Engineer
Next Generation Innovation - karachi, Pakistan
- Backend development using Python, Django, and FastAPI to create scalable and maintainable systems.
- Integrated generative AI models and deployed real-time applications, leveraging frameworks like GANs and Whisper.
- Enhanced system efficiency by optimising APIs, reducing response time by 20%, and improving user experience.
- Contributed to the development of AI-powered solutions, including LLM-based chatbot integrations using Falcon, and LLaMA models.

SKILLS

- **Programming Languages:** Python, and SQL
- **Frameworks:** Django, FastAPI, Flask
- **AI & ML:** Generative AI (GANs), LLMs (Falcon, LLaMA, Mistral), Machine Learning, PyTorch, NumPy, and Pandas, RAG, CAG, Prompt Engineering, Function Calling, Text Generation, Fine tuning, TTS, STT
- **Tools & Platforms:** Git, Docker, Kubernetes, AWS (SageMaker, EC2), Linux, CUDA, Nvidia-Nemo, Nvidia-Riva
- **APIs:** RESTful APIs, OpenAI API, Hugging Face Transformers
- **Databases:** PostgreSQL, MySQL, SQLite, Vectorize Databases, FAISS, Chromadb

- Project Management
- Team Collaboration
- Effective Communication
- Leadership
- Critical Thinking
- Problem-solving

EDUCATION

2021

Bachelor of Science: Bachelor of Science in Software Engineering (BSSE)
University of Karachi - Karachi, SD
- Relevant coursework: Object-Oriented Programming, Data Structures, Artificial Intelligence, Relational Databases (RDBMS)
- Final Year Project: Object Detection for Blind People – Developed AI-based goggles to assist visually impaired individuals in navigating obstacles
- CGPA 3.02

2020

Diploma of Higher Education: Artificial Intelligence Specialization (PIAIC)
Presidential Initiative for Artificial Intelligenc - Karachi, SD
- Achieved: 962/1,050 (91.6%)
- Focus: Deep Learning, Machine Learning, Data Visualisation, Python Programming

2017

A-Levels: Intermediate in Pre-Engineering (FSc)
Govt. Degree College SRE Majeed - Karachi, SD
- Achieved: 76.82%.

LANGUAGES

English:	C1	Urdu:	C2
Advanced		Proficient	
Hindi:	B2	German:	A1
Upper Intermediate		Beginner	

CERTIFICATIONS

- **Artificial Intelligence Specialization** – Presidential Initiative for Artificial Intelligence & Computing (PIAIC) | 2019 – 2020
  Achieved 91.6% (962/1050), focusing on Deep Learning, Machine Learning, and Data Visualization.
- **Beginner and Intermediate Generative Adversarial Networks (GANs)** – Coursera
  Mastered foundational and intermediate concepts of GANs, including architecture, training, and applications.
- **Python for Data Science and Machine Learning** – Coursera (or platform name if applicable)
  Covered key concepts like NumPy, Pandas, and Machine Learning algorithms.
- **Docker & Kubernetes Certification** – [Platform Name, e.g., Udemy, LinkedIn Learning]
  Mastered container orchestration and deployment of scalable systems.
- **AWS Certified Cloud Practitioner** – Amazon Web Services
  Gained expertise in cloud fundamentals, including AWS services and solutions.
- **FastAPI & Flask Backend Development** – [Platform Name]
  Learned building RESTful APIs with FastAPI and Flask.

HOBBIES AND INTERESTS

- Videography
- Gaming
- FPV Drones

PROJECTS

- **Memory Aid** (2024 - Ongoing)Designed an AI-driven memory assistance system tailored for users with memory challenges.
  Captured images every 15 minutes (simulated) and generated detailed summaries using OpenAI's GPT.
  Compressed images to optimize storage and stored data in a FAISS vectorized database.
  Enabled secure search of past memories by time, returning a summary, timestamp, and location.
  GitHub Link
- **Homlo** (Ongoing)Developed a backend for a rental platform inspired by Airbnb, targeting the Pakistani market.
  Incorporated advanced features to enhance the user experience for property rentals.
  GitHub Link
- **Ground News** (2025 - Ongoing)Automated video pipeline to generate news videos.
  Scraped current news and created scripts using GPT, converting text to speech.
  Generated lip-synced videos of news anchors, streamlining the video creation process.
  GitHub Link
- **Health At Hands** (2022 - 2023)Contributed to the backend development of a Dubai-based telehealth platform.
  Implemented appointment management features to facilitate remote consultations between doctors and patients.
- **HeronOS** (2023 - Present)Worked with a German company providing AI-based chatbot services.
  Integrated real-time Whisper transcription for voice calls and explored various large language models (LLMs) like Falcon and LLaMA.
- **Covid-19 Tracker** (2020)Developed a tracking application during the COVID-19 pandemic to monitor patient cases and provide valuable insights.
- **Object Detector for Blind People** (2021)Built AI-based goggles to assist visually impaired users.
  Enabled object detection within a 2-meter range to assist navigation and obstacle avoidance.