

DANISH ILYAS

AI Agent & Python Developer | Automation Engineer | Full-Stack Developer

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Portfolio: <https://danish614.github.io/danish-portfolio/> | GitHub: <https://github.com/danish614> | LinkedIn:

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PROFESSIONAL SUMMARY

AI and Python developer with hands-on experience shipping production systems for paying clients: AI agents, business-automation bots, third-party API integrations and full-stack web applications. Built a bilingual (English/Urdu) WhatsApp Cloud API bot that operates a live ERP/POS entirely from chat, integrated a retail POS with Pakistan's FBR (AJK-IRD) government tax-invoicing API, and built a multimodal medical-diagnosis model fusing chest X-ray images with clinical notes. Works across two ecosystems: Python (FastAPI, Django, LangChain, PyTorch) and C#/.NET (ASP.NET Core, Entity Framework, SQL Server). Currently pursuing a BS in Computer Science at UCP while delivering paid freelance client work. Recorded video demonstrations of every project below are available on the portfolio site.

TECHNICAL SKILLS

AI and LLMs: OpenAI GPT-4, LangChain, RAG Pipelines, Prompt Engineering, AI Agents, LLM Integration

Machine Learning: PyTorch, TensorFlow, Scikit-learn, XGBoost, ResNet50, BERT, Bio_ClinicalBERT, OpenCV, Pandas, NumPy

Backend: FastAPI, Django, Flask, ASP.NET Core MVC, REST APIs, WebSockets, JWT Authentication, Celery, ARQ, Redis

Automation and APIs: WhatsApp Cloud API, Meta Graph API, TikTok API, FBR / AJK-IRD Tax API, Webhooks, Selenium, yt-dlp, FFmpeg, Windows Services, Scheduled Jobs

Databases: PostgreSQL, SQL Server, SQLite, SQLAlchemy, Entity Framework Core, Alembic, Redis

Frontend: HTML5, CSS3, JavaScript, HTMX, Tailwind CSS, Jinja2, Razor, Bootstrap, React, Streamlit

DevOps and Tools: Docker, Caddy, Git, GitHub, Visual Studio, VS Code, Jupyter, Postman

Programming Languages: Python (Advanced), C# (Intermediate), C++ (Intermediate), SQL, JavaScript

PROFESSIONAL EXPERIENCE

Freelance Software Engineer - AI, Automation and Web Development

Freelance marketplace and direct clients | Remote | 2024 - Present

Fiverr gigs are published through @asad_ilyas1, my brother Asad Ilyas's account; the development and delivery are my own.

- Maintain and extend a live multi-tenant ASP.NET Core ERP/POS suite for agri-trading, textile and retail clients, covering sales, purchases, returns, inventory, recipes, ledgers, cash and bank vouchers, and reporting on SQL Server.
- Built a bilingual English/Urdu WhatsApp business bot on top of that ERP, allowing owners and customers to place orders, check balances and pull daily reports directly from chat without desktop access.
- Integrated the POS with the FBR (AJK-IRD) government tax-invoicing API, implementing buyer NTN/CNIC/STRN validation, HS/PCT code mapping and tax-exempt handling for legally compliant real-time invoicing.
- Architected a multi-platform content syndication system that automatically mirrors YouTube uploads to Facebook Pages and TikTok for a content agency, including quota tracking across three external API providers.
- Developed a Windows-service print agent that renders thermal receipts and Z-reports directly from the browser using QuestPDF.
- Maintain a 4.9 rating across 44+ verified Fiverr reviews with 100% on-time delivery.

SELECTED PROJECTS

Content Syndication Automation Platform - Client Project (In Development)

Designed and built an end-to-end system that detects YouTube creators missing from Facebook and TikTok, then auto-mirrors every new upload with identical title, description, tags and thumbnail. Includes per-creator Manual/System/Paused migration modes, CSV bulk import, background download-and-publish workers, API budget tracking and a cross-platform insights dashboard.

Stack: Python 3.12, FastAPI, HTMX, Jinja2, PostgreSQL, Redis, ARQ, yt-dlp, FFmpeg, Meta Graph API, TikTok API, Docker, Caddy

WhatsApp Business Bot for ERP / POS - Client Project (Live)

Conversational bot on the WhatsApp Cloud API that turns a full ERP into a chat interface. Customer menu covers new orders, price list, order history, balance and ledger; admin menu covers daily sales, Z-reports, pending orders, stock alerts, customer ledgers, product creation and purchase recording. Features a stateful multi-step conversation engine, webhook message handling, full English/Urdu localisation with per-number language memory, PDF invoices delivered as WhatsApp media, and a scheduled notification service.

Stack: C#, ASP.NET Core, WhatsApp Cloud API, Webhooks, Entity Framework Core, SQL Server, QuestPDF

FBR (AJK-IRD) Tax Integration for Retail POS - Client Project (Live)

Integrated a retail POS with Pakistan's FBR AJK-IRD digital invoicing API so every sale is reported to the tax authority in real time.

Implemented buyer NTN/CNIC/STRN management with searchable lookup at the sale window, walk-in customer fallback, tax-exempt

product flags, HS/PCT code mapping and a bulk Excel import/export tool.

Stack: C#, ASP.NET Core MVC, FBR / AJK-IRD REST API, Entity Framework Core, SQL Server, EPPlus

ERP / POS Suite for Trading and Retail - Client Project (Live)

Ongoing development on a multi-tenant ASP.NET Core ERP covering sales, purchases, returns, inventory, recipes, customer and supplier ledgers, cash and bank vouchers, and financial reporting. Extended with multi-language support and a Windows-service print agent for thermal receipt and Z-report printing from the browser.

Stack: ASP.NET Core, SQL Server, Entity Framework Core, Windows Service, QuestPDF

Multimodal Medical Diagnosis AI

Late-fusion deep learning system combining chest X-ray images with clinical notes to classify 14 lung findings. Fused a ResNet50 image encoder with a Bio_ClinicalBERT text encoder through a three-layer classification head, trained on MIMIC-CXR with macro-AUC evaluation and served through a FastAPI backend with a Streamlit diagnosis interface.

Stack: PyTorch, FastAPI, Streamlit, ResNet50, Bio_ClinicalBERT

Hospital Management System - Production Ready

Full-stack hospital system covering 20+ database tables and 5 role-based access levels (Admin, Receptionist, Doctor, Lab Technician, Billing), with JWT authentication, auto-generated patient and bill IDs, real-time WebSocket notifications, SMS alerts, appointment, bed, lab and billing workflows, and a documented REST API.

Stack: FastAPI, SQLAlchemy, Alembic, PostgreSQL, React, WebSocket, JWT

Job Agent - AI Resume Matcher

LangChain agent that scrapes live job postings, scores resume-to-job fit, generates tailored cover letters and produces skill-gap analysis. Fully dockerised.

Stack: FastAPI, LangChain, OpenAI, Docker, PDF Parsing

EduAssist - AI Learning Assistant

GPT-4 educational chatbot with automated test evaluation, OCR-based grading of photographed answer sheets, adaptive learning paths and a performance analytics dashboard.

Stack: FastAPI, OpenAI GPT-4, Streamlit, OCR, SQLite

E-Commerce Price Tracker with Automated Alerts

Tracks Amazon and Daraz product prices every six hours through Celery Beat and emails the user when a target price is reached. Includes price-history charts, anti-bot scraping with Selenium andundetected-chromedriver, a REST API and a CLI management interface.

Stack: FastAPI, PostgreSQL, Celery, Redis, Selenium, SMTP, Chart.js

Restaurant Ordering and Booking Platform

Production-ready Django site with online ordering and a live cart, table reservations, moderated customer reviews, WhatsApp and call quick actions, Google Maps integration and a complete admin panel, hardened with CSRF, XSS and input-validation protections.

Stack: Django, PostgreSQL, JavaScript, AJAX, Bootstrap

Heart Disease Prediction System

Comparative ML study benchmarking Logistic Regression, Random Forest, SVM and XGBoost with 5-fold cross-validation and engineered interaction features; best model (XGBoost) reached 85.3% accuracy and 87.3% F1, deployed as a Streamlit app.

Stack: Python, Scikit-learn, XGBoost, Streamlit, Pandas, Plotly

Smart Parking Management System - University Capstone

Parking system on a self-contained C++ HTTP server with no external framework, exposing a JSON REST API for slot allocation, check-in/check-out and fee calculation, with a vanilla-JavaScript dashboard.

Stack: C++, cpp-httplib, REST API, JavaScript, HTML5, CSS3

EDUCATION

BS Computer Science (Ongoing)

University of Central Punjab (UCP), Lahore | 2024 - Present

CERTIFICATIONS

- The AI Engineer Course 2025 - Udemy