

HAMZA BILAL

AI Automation & Backend Engineer

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SUMMARY

AI Automation & Backend Engineer with **3+ years** of experience at **Techticks** building production-grade backends and end-to-end AI automation platforms. Expert in **Python, Django, Django REST Framework, FastAPI, and Flask**, with deep experience shipping intelligent workflows on **n8n, Make.com, and Zapier**. Hands-on with **AWS deployment** — SageMaker for real-time ML inference, Comprehend and Textract for text/OCR, plus EC2, Lambda, S3, API Gateway, and CloudWatch for scalable services. 100% Upwork Job Success with a track record of replacing manual operations with self-healing, AI-driven systems.

TECHNICAL SKILLS

Backend: Python, Django, Django REST Framework, FastAPI, Flask, REST APIs, Celery, Redis, Pytest

AI & ML: OpenAI, LangChain, Agno, Hugging Face, Whisper, TensorFlow, Keras, PyTorch, CNNs, NER, Sentiment, Embeddings

AI Automation: n8n, Make.com, Zapier, Workflow Design, AI Agents, Webhook Orchestration, PDF Data Extraction

AWS & Cloud: AWS SageMaker, AWS Comprehend, AWS Textract, EC2, Lambda, S3, API Gateway, CloudWatch, IAM, SQS, ECR, Docker, CI/CD

CRM & SaaS: Close CRM, HubSpot, Salesforce, GoHighLevel, Notion API, Microsoft Graph, Revolut Business, Unipile, Dripify, Apify

Frontend & Full-Stack: Next.js 15, React, TypeScript, JavaScript, HTML, CSS, Tailwind CSS, NextAuth, Vercel

Databases: PostgreSQL, MySQL, SQLite, SQL, Notion as Backend

Dev Tools: Git, GitHub, GitLab, Linux, VS Code, Postman

EXPERIENCE

Techticks — On-site, Bahawalpur, Pakistan

April 2023 – Present | 3+ years

Trainer, AI Automation & Backend Engineering

January 2024 – Present

- Own the in-house training program for AI Automation and Backend Engineering, mentoring junior engineers and interns on Python backends (Django, DRF, FastAPI), n8n/Make.com workflow design, LLM and agent orchestration, and AWS deployment.
- Authored hands-on curriculum, runbooks, and code-review standards covering architecture patterns, testing with pytest, secure API design, and observability on AWS CloudWatch.
- Led technical onboarding and paired-programming sessions that reduced trainee ramp-up time and raised the team's baseline delivery quality on client engagements.

AI Automation & Backend Engineer

April 2023 – Present

- Designed and shipped end-to-end **AI automation workflows** on n8n, Make.com, and Zapier — orchestrating OpenAI, LangChain, and Agno agents with CRMs (Close, HubSpot, Salesforce, GoHighLevel) to replace manual ops with self-healing pipelines.
- Built and deployed custom **ML models to AWS SageMaker** (real-time image/text inference endpoints), consumed by Django/FastAPI services over HTTPS with IAM-scoped access.
- Integrated **AWS Comprehend** for sentiment, entities, key phrases, and topic detection, and **AWS Textract** for OCR on complex PDFs — achieving 100% extraction accuracy with LLM post-processing.
- Owned cloud deployment on AWS end-to-end: EC2/ECS, Lambda, S3, API Gateway, CloudWatch, SQS, ECR, with Docker containerization and zero-downtime CI/CD.
- Developed scalable backend services in **Python, Django, Django REST Framework, and FastAPI**, including OAuth2 flows, webhooks, and modular integration architecture (oauth.py, client.py, service.py).
- Built full-stack products including the **Hostyo Owner Portal** (Next.js 15 + Notion-as-backend) and automated outreach systems on Unipile + Dripify delivering measurable lead-volume increases.
- Operated Celery + Redis + SQS for async report generation, long-running AI inference, and webhook fan-out, with structured logging, retries, and alerting.

- Delivered 4+ successful Upwork engagements with 5.0/5 ratings and 100% Job Success across n8n, CRM, and data-extraction automations.

Python Developer Intern

Enigmatix Pvt Ltd | Bahawalpur, Pakistan

January 2023

- Built back-end services and data-analysis tooling in Python, Django, and Django REST Framework.
- Introduced unit testing with Django Unit Test and Pytest, catching regressions before production.
- Collaborated cross-functionally from idea to delivery, shipping optimizations that improved load times.

FEATURED PROJECTS

Hostyo — Property Management Owner Portal

Next.js 15, TypeScript, Notion API, Tailwind CSS, NextAuth, Vercel

Multi-tenant owner portal using **Notion as a headless backend**. Hosts see live reservations, payouts, expenses, and property KPIs. Role-based auth, typed Notion API routes, preview environments per branch on Vercel.

Close CRM <-> Outlook Calendar Sync (n8n)

n8n, Close CRM API, Microsoft Graph, OAuth2, Webhooks

Bi-directional, webhook-driven sync between Close CRM tasks and Outlook events with conflict resolution, token refresh, and Slack-based alerting.

Revolut Business <-> Notion Reservations (n8n)

n8n, Reolut Business API, Notion API, Webhooks

Auto-matches Reolut transactions to Notion reservation records, flags mismatches to an exception queue, and generates daily/weekly financial reports back into Notion.

Automated Outreach System (Unipile + Dripify)

n8n, Unipile, Dripify, OpenAI, LinkedIn, Google Sheets

Multi-channel cold outreach with AI-personalized first lines, rate-limit-aware scheduling, and automatic reply detection that pauses campaigns and hands conversations to humans.

Complex PDF Data Extraction Service

Python, AWS Textract, OpenAI, LangChain, FastAPI, Pydantic

Turns mixed-layout PDFs into structured JSON with 100% accuracy via Textract OCR, LLM normalization, strict Pydantic schemas, and a human-in-the-loop fallback.

Social Media Assessment Pipeline

Python, Apify, AWS SageMaker, AWS Comprehend, OpenAI Whisper, Agno

End-to-end AI/ML pipeline ingesting TikTok/Instagram/Facebook/YouTube content. Routes to TextAnalyzer (Comprehend), ImageAnalyzer (CNN on SageMaker), VideoAnalyzer (frames every 3s to batch analysis), Whisper transcription, and Agno agents for enrichment.

EDUCATION

Bachelor's in Data Science

Islamia University of Bahawalpur | Bahawalpur, Pakistan

2020 – 2024

CERTIFICATIONS & HIGHLIGHTS

- Python for Data Science — IBM
- Upwork: 100% Job Success, Rising Talent, \$3K+ earnings, 5.0/5 rating across all completed jobs
- Specialties: AI Agents, LLM Orchestration, AWS SageMaker/Comprehend, Workflow Automation