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Badiea Al Shabili

SUMMARY

Backend Engineer building production AI systems and test infrastructure. Shipped WhatsApp commerce automation serving 3,000+ products · Scaled test suites to 1,400+ scenarios · Architect event-driven systems with FastAPI, Redis, and message queues.

EXPERIENCE

Software Engineer (Contract)

Jan 2026 Present

Al Ebdaa Al Raqamy - Remote, Dubai, UAE

- Built an **AI sales agent** (Gemini LLM) that automates product inquiries, inventory checks, and checkout via **WhatsApp Business API**, handling conversational commerce for 3,000+ Products.
- **Achieved near-zero latency** for product queries by implementing **webhook-driven data pipelines** (Shopify → Redis + vector DB), synchronizing catalog updates in real-time without querying Shopify on every customer request.
- Enabled **natural language search across 3,000+ Products** using RAG and Redis-cached catalog data. Integrated with Shopify GraphQL for real-time inventory validation.
- Built a **multi-turn conversational pipeline** (FastAPI, async Python) with intent routing, tool orchestration, and **bilingual support**.

Software Engineer in Test (Internship)

July 2025 Dec 2025

12u12 Sdn Bhd - Cyberjaya, Selangor

- **Scaled test automation from 400 to 1,400+ active tests** (3.5x growth), personally implementing ~1,000 scenarios across iOS, Android, and Web platforms.
- **Reduced test execution time by 40%** through session-scoped fixtures, eliminating redundant app launches and enabling faster CI/CD cycles.
- Built a **unified keyword-driven test engine** (Appium/Pytest) replacing fragile legacy scripts, enabling single code-base for cross-platform testing with dynamic configuration.
- **Automated nutritional data extraction for thousands of products** using Gemini API with custom rate-limiting, reducing manual research from hours to minutes per batch while operating within free-tier constraints.

Web Development (Internship)

March 2022 June 2022

ICT Center - Kajang, Selangor

- Developed a full-stack IP management system using **Laravel** and **SQL**, implementing RBAC and asset tracking schemas for network infrastructure monitoring.

PROJECTS

First Job Notification Service [GitHub] | [Live]

Python, Async, Redis Pub/Sub, PostgreSQL, Docker

Compose

- Built a **producer-consumer job scraper** using Redis to decouple Playwright scraping from Discord/Telegram notifications, delivering alerts in under 5 seconds.
- Deployed via **Docker Compose** with async FastAPI backend (SQLAlchemy) and automated Alembic migrations for PostgreSQL.
- Implemented **user subscription system** allowing users to subscribe to specific job categories and receive personalized notifications via webhooks.

Kandidate Distributed Ingestion Engine [GitHub]

Message Queues (RabbitMQ), FastAPI, MongoDB,

Threading, LLM Integration

- Architected a distributed **AI resume analysis system** using **RabbitMQ** to decouple ingestion from analysis, preventing API rate-limiting under load while maintaining processing throughput.
- **Optimized for cost-efficient VPS hosting** through hybrid service model (API + queue workers via threading), reducing RAM usage while maintaining responsiveness.

- Integrated **Gemini AI with Instructor** to enforce strict **Pydantic** schema validation, guaranteeing structured output for downstream processing.

Job Signal Pipeline [GitHub] | [Article] *Web Scraping (Playwright), Pandas, Data Normalization, AI Enrichment*

- Built an **AI-powered job market analysis pipeline** that scrapes, normalizes, and enriches listings to extract tech stack demand, salary trends, and seniority signals from unstructured job posts.
- Integrated **Gemini AI with Instructor** for structured data extraction, enabling actionable labor market insights and trend analysis.
- Processed and analyzed **thousands of job listings** to identify emerging technology trends and skills gaps in the Malaysian tech market.

V2 Re-architecture: Keyword-Driven E2E Framework [GitHub] *Test Architecture, Playwright, Pytest, JSON-Driven Config, Schema Validation*

- Complete architectural overhaul of an existing Playwright/Pytest suite, transforming it into a highly scalable, maintainable system with **Pydantic-validated JSON pipelines**.
- Implemented **keyword-driven testing from external JSON files**, enabling non-technical stakeholders to define test scenarios through structured data with strict schema validation.
- Achieved **significant reduction in code duplication** by abstracting common test patterns into reusable keyword actions, improving maintainability across the test suite.

EDUCATION

Bachelor of Computer Science (Hons.) **2023 - 2025**
Multimedia University - Cyberjaya, Selangor

- **Relevant Coursework:** Data Structures & Algorithms, Database Systems, Software Engineering, Operating Systems, Computer Networks

Diploma in Software Engineering **2020 - 2022**
Infrastructure University Kuala Lumpur - Kajang, Selangor

CERTIFICATIONS

- **MIT 6.00.1x** Introduction to Computer Science and Programming Using Python
- **MIT 6.00.2x** Introduction to Computational Thinking and Data Science
- **CCNAv7** Introduction to Networks (Cisco Networking Academy)

TECHNICAL SKILLS

Languages	Python, SQL (<i>Academic Experience: Java, JavaScript, PHP</i>)
Backend & Architecture	FastAPI, Redis, RabbitMQ, PostgreSQL, MongoDB, Pydantic, RESTful APIs, Async Programming, Event-Driven Systems
AI & LLM Integration	Gemini API, RAG (Retrieval-Augmented Generation), Function Calling, Structured Outputs (Instructor/Pydantic), Prompt Engineering
QA & Testing	Pytest, Appium, Selenium, Playwright, Keyword-Driven Frameworks, Data-Driven Testing, CI/CD Testing
DevOps & Tools	Docker, Docker Compose, Git, GitHub Actions, Linux, Postman, Alembic

SOFT SKILLS

- **Mentorship & Knowledge Transfer**
- **Cross-functional Communication**
- **Self-directed Learning**
- **Problem Solving & Optimization**