

# MOHAMED KAMEL

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## EDUCATION

**University of Wollongong, Dubai, UAE (2022 – 2025)**

**Bachelor of Computer Science (Cybersecurity)**

Main Projects:

- Designed a MySQL Database for a hospital company, organizing patient and staff information.
- Applied MySQL, PostgreSQL and MongoDB in projects focused on database design.

## EXPERIENCE

**Freelance Projects (2024 – 2025)**

**Bespoke A&E - AI-Powered Architecture & Engineering Platform (2025)**

- Developed a full stack platform using Next.js, Prisma and PostgreSQL. Hosted on Railway, enabling architects and engineers to collaborate and submit RFPs with AI assisted recommendations.
- Built an AI CV Parser using OpenAI API and LangChain, capable of parsing resumes and prefilling sign up data.
- Integrated AWS S3 for secure file storage and retrieval of documents and user uploads.

**SafeOps - AI-Based Workforce & Safety Monitoring System (2025)**

- Developed an AI driven PPE detection and facial recognition system for warehouses using YOLOv8 and Arc Face, deployed for real time workforce safety monitoring.
- Integrated ByteTrack and ReID for multi camera worker tracking and identity consistency across views.
- Trained YOLOv8 models on AWS EC2 using public datasets to automate safety violation reports and attendance logging.
- Applied OpenCV for video frame processing, improving accuracy and latency.

**Multi - Tool AI Assistant (2025)**

- Developed an AI bot with dual-model intelligence that automatically selects between fast (Gemini 2.0 Flash) and smart (Gemini 2.5 Pro) models based on user prompt.
- Built advanced memory system with PostgreSQL storing user preferences, personality traits, relationship notes, interaction history, learned behaviors, and consciousness streams across 11 database tables.
- Implemented image generation capabilities using Imagen 3.0 via Vertex AI
- Built web browsing and automation features with security controls that navigate websites, detect obstacles like CAPTCHAs and provide detailed explanations without bypassing protections.
- Integrated Serper API for real-time internet search, enabling the bot to retrieve and synthesize information from the web for user queries.
- Built production-ready async architecture using Python to handle multiple requests without blocking.

**Cybersecurity Projects - 2025**

- Performed penetration testing simulations using Kali Linux, Metasploit and vulnerable testing environments.
- Exploited vulnerabilities in DVWA (XSS, SQL injection and brute force).
- Used OWASP ZAP for vulnerability scanning.
- Conducted ARP spoofing, DNS poisoning and packet analysis with Wireshark.
- Gained experience in hardening AI systems that interact with external memory and third-party APIs.

**CharCentric (2024 – 2025)**

**MoneyLisa - AI Financial Assistant (2024)**

- Built an AI financial assistant ("MoneyLisa") that learns user habits and gives personalized insights without hard-coded logic.

## **SKILLS**

### **1. Database Management**

- MySQL
- MongoDB
- PostgreSQL

### **2. Programming Languages**

- C++
- JavaScript
- HTML
- Python

### **3. Website Building**

- Next.js
- React.js
- Tailwind CSS
- Prisma

### **4. Network Modelling using Packet Tracer**

### **5. Cloud & DevOps**

- AWS EC2
- AWS S3

### **6. AI / Machine Learning Systems**

- YOLOv8(Object Detection)
- Arc face (Facial Recognition)
- OpenCV (Computer Vision)
- Deep stream SDK
- Lang chain
- OpenAI API
- Gemini API
- Redis & Zep (AI Memory)

### **7. Cybersecurity Tools & Techniques**

- Kali Linux
- Metasploit
- OWASP ZAP
- Wireshark
- SQL Injection, XSS and Brute Force
- ARP Spoofing and DNS Poisoning
- Prompt Injection Defence
- Input/Output Validation

## **LANGUAGES**

- English (IELTS score 8.0)
- Arabic (Native)