AMJED KHALED

AI & SOFTWARE DEVELOPER

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SUMMARY

Mechatronics Engineering student specializing in Artificial Intelligence, Python Development, and Software Engineering. Experienced in developing AI-powered applications, Machine Learning and Deep Learning solutions, Computer Vision systems, and Python-based backend applications. Skilled in JavaScript, Node.js, RESTful APIs, SQL databases, Embedded Systems, and IoT technologies. Proficient in leveraging advanced AI-powered development tools for software engineering, code generation, debugging, system design, and rapid application development. Strong interest in Robotics, Automation, Intelligent Systems, and integrating AI with real-world engineering applications.

EXPERIENCE

AI & SOFTWARE DEVELOPER — JAN 2021 - AUG 2026

Project-Based Experience

- Developed AI-powered applications using Python, TensorFlow, PyTorch, and Scikit-learn, covering Machine Learning, Deep Learning, Computer Vision, YOLO-based object detection, and intelligent chatbot development.
- Engineered data processing pipelines using Python, Pandas, NumPy, and OpenCV for image analysis, video processing, and data preparation.
- Designed and optimized relational database structures using SQL and MySQL to support efficient data storage, retrieval, and AI application integration.
- Developed real-time video streaming and hardware-connected applications using Raspberry Pi and Arduino.
- Implemented software control solutions for drone and underwater robotic systems, integrating software logic with hardware components.
- Built and integrated RESTful APIs and backend components for application and AI service integration.
- Implemented automated development and deployment workflows using Git, Jenkins, and GitLab CI/CD.

PYTHON SOFTWARE & BACKEND DEVELOPMENT — MAR 2025 - AUG 2026

xWARE

- Developed Python-based software applications and scalable data processing solutions.
- Worked with SQL databases, MySQL, and MongoDB concepts for structured data management.
- Implemented software components for backend integration and API-based communication.
- Used Git and modern development tools to manage code, testing, and software development workflows.

JAVASCRIPT & BACKEND DEVELOPMENT – PORTFOLIO FOCUS — DEC 2023 - MAR 2024

Vatoce

- Targeted development of Node.js backend services for business management and ERP applications.
- Focused on RESTful API development and integration with inventory, sales, and accounting modules.
- Applied database design concepts using SQL, MySQL, and MongoDB for reliable data persistence.
- Focused on backend architecture, data validation, API testing, and seamless application integration.

ENTRY-LEVEL SOFTWARE ENGINEER — JUN 2022 - SEPT 2023

Assiu Systems

- Developed and enhanced software features for web applications and AI-powered platforms.
- Contributed to application development, debugging, testing, and maintenance across development, staging, and production environments.
- Collaborated with technical teams and external contributors to translate project requirements into software specifications.
- Participated in technical planning, software design, project estimation, and application performance improvements.

AI & COMPUTER VISION DEVELOPMENT — COMPLETED

RIME

- Developed Python-based computer vision applications for real-time image and video analysis.
- Worked with AI models for object detection, visual data processing, and intelligent monitoring.
- Explored AI integration with cameras, sensors, and edge computing environments.
- Developed intelligent automation concepts combining AI models with hardware-connected systems.

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PROJECTS & APPLICATIONS

QAREEBLAK – FULL-STACK SERVICES & DELIVERY PLATFORM — FULL-STACK PROJECT

Technologies: JavaScript, TypeScript, Node.js, Express.js, Next.js, React, React Native, Socket.io, PostgreSQL, JWT

- Developed a unified service marketplace and delivery management platform supporting service bookings, order processing, and provider management.
- Built scalable backend services and RESTful APIs using Node.js and Express.js.
- Implemented real-time communication using Socket.io, including pharmacy chat, prescription image sharing, and message persistence.
- Developed real-time courier tracking and background location updates using React Native and Expo.
- Integrated JWT authentication, database indexing, pagination, and optimized SQL queries.

ORYX – SMART INVENTORY MANAGEMENT (STOCK M8) — AI & VISION PROJECT

Technologies: Python, YOLOv10, Ultralytics, Roboflow, Computer Vision, Deep Learning, OpenCV

- Developed a computer vision system to detect and localize empty spaces on retail shelves using YOLOv10.
- Prepared and annotated custom image datasets using Roboflow for high-accuracy object detection.
- Applied image preprocessing and augmentation techniques, including resizing, rotation, and exposure adjustment.
- Organized training, validation, and testing datasets to support model development and evaluation.
- Designed real-time visual detection workflows for automated inventory monitoring.

FLASK IMAGE PROCESSING WEB APPLICATION — BACKEND & WEB PROJECT

Technologies: Python, Flask, MongoDB, MongoEngine, Pillow, Image Processing

- Developed a web-based image processing application using Python and Flask.
- Implemented user registration, authentication, and secure profile management.
- Built image upload and processing functionality supporting brightness, contrast, resizing, and rotation operations.
- Integrated MongoDB using MongoEngine for user data and processed image storage, enabling users to save and retrieve processed images.

SKILLS AND EXPERTISE

Python, JavaScript & TypeScript	Machine Learning & Deep Learning	Claude (Anthropic) & Claude Code
Node.js, Express.js & Flask	Computer Vision (OpenCV, YOLO)	Cursor, Copilot & OpenAI Codex
React, Next.js & React Native	TensorFlow, PyTorch, Scikit-learn	Google Gemini & Google Antigravity
RESTful APIs & Socket.io	Embedded Systems & IoT	ChatGPT & AI-Assisted Prototyping
SQL, MySQL & PostgreSQL	Arduino, Raspberry Pi & Robotics	Replit & Lovable Dev Platforms
MongoDB & Database Design	Docker, Jenkins & GitLab CI/CD	Ollama & Local LLM Deployment

EDUCATION

B.Sc. in Mechatronics Engineering | Assiut University – Faculty of Engineering | Assiut, Egypt
Oct 2025 – Present

AI & Data Science | Ahmed Dief Allah IATS | Assiut, Egypt
Sep 2022 – Aug 2025

DEVELOPMENT & LANGUAGES

Deep Learning Specialization | DeepLearning.AI – Coursera | Jan 2022 – May 2022

MongoDB Associate Database Administrator (DBA) | MongoDB | Feb 2024 – Jul 2024

Advanced Diploma (Level 4) in Data Science & AI | Udacity | Jan 2023 – Aug 2023

Languages: Arabic (Native) | English (Intermediate)