

ABDULLAH ALABBOUD

Computer Engineer | AI & Simulation Developer

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PROFESSIONAL SUMMARY

Computer Engineer specializing in artificial intelligence, computer vision and real-world simulation. 3+ years of hands-on experience building Unreal Engine simulations, real-time object detection systems (YOLOv5/YOLOv8, CNN), synthetic dataset pipelines, and embedded communication systems on STM32, Raspberry Pi and NVIDIA Jetson. Full-stack background in Python, C/C++, C#, Dart and Java, with cross-platform delivery using Flutter and Django. Trilingual: Arabic, Turkish and English.

PROFESSIONAL EXPERIENCE

Computer Engineer — Robotiks Systems, Istanbul, Turkey Sep 2022 – Present

- Develop artificial intelligence and computer vision models for real-time detection from video streams.
- Build real-world simulation environments in Unreal Engine integrated with Cesium geospatial data and MQTT.
- Develop firmware and applications for microcontrollers and embedded boards (STM32, Raspberry Pi, Jetson).
- Design device-to-device communication and connectivity systems (UART, TCP/UDP, gRPC, MQTT, ZeroMQ).

Freelance Graphic Designer — Remote Mar 2015 – Present

- Create visual identities, branding and marketing materials for clients using Adobe Creative Suite and Figma.
- Produce 3D models and visualizations in Blender.

Marketing Manager — DTC, Syria Mar 2016 – Sep 2018

- Led the digital marketing team, planning and delivering digital campaigns and content.

TECHNICAL SKILLS

- **Simulation & 3D:** Unreal Engine (Proficient, 3 years), Cesium, Blender
- **AI & Computer Vision:** CNN, DNN, YOLOv5, YOLOv8, synthetic dataset generation, LLMs (beginner)
- **Programming Languages:** Python, C/C++, C#, Dart, Java, JavaScript, PowerShell
- **Frameworks:** Flutter (Proficient), Django (Proficient), ASP.NET (Intermediate), Android/Java (Intermediate)
- **Embedded Systems:** STM32, Raspberry Pi, Raspberry Pi Pico, NVIDIA Jetson, UART/TTL serial
- **Protocols & APIs:** TCP, UDP, gRPC, MQTT, ZeroMQ, REST API
- **Databases:** SQL Server, PostgreSQL, SQLite, MongoDB
- **Architecture & OS:** MVC, BLoC, Cubit • Linux (Ubuntu), Windows
- **Design Tools:** Photoshop, Illustrator, After Effects, Premiere Pro, Lightroom, Figma

SELECTED PROJECTS

- **Heavy & Armored Vehicle Detection** (*YOLOv5, YOLOv8, CNN*) — Real-time detection of heavy and armored vehicles from recorded video or live camera feeds.
- **World Simulation** (*Unreal Engine, Cesium, MQTT*) — Multiple projects simulating real-world environments using Cesium geospatial data, connected over MQTT.
- **Synthetic Dataset Generation** (*Unreal Engine*) — Extracts labeled images from user-defined virtual environments to generate training data for AI models.
- **COVID-19 & Pneumonia Detection from X-rays** (*Python, CNN*) — Academic project classifying chest X-ray images to detect COVID-19 and pneumonia.
- **Images Extractor** (*Python*) — Batch-extracts frames from one or more videos at defined dimensions to build AI training datasets.
- **Smart Farmer** (*STM32, HC-12, Serial*) — Wireless system monitoring soil moisture, pH and solar power units, and controlling pumping, spraying and tank filling.
- **ZeroMQ Video Streaming** (*Dart, ZeroMQ*) — Streams video data to multiple display clients across Windows, Linux, Android and iOS.

- **Serial UART Communication** (*Python*) — Data transfer between devices over wired UART, with wireless fallback via remote communication modules.
- **Smart Doctor App** (*Flutter, REST API*) — Mobile app for doctors to manage patient records, appointments and medical histories.
- **Cargo System** (*Java*) — University desktop application for managing parcel delivery between governorates.

EDUCATION

B.Sc. in Computer Engineering — Kastamonu University, Turkey Sep 2019 – Mar 2024

Communications & Information Technology Engineering — Ebla Private University, Syria Sep 2014 – Sep 2018
Coursework completed; transferred before graduation.

LANGUAGES

Arabic — Native • Turkish — Fluent • English — Professional working proficiency