

MOHAMED HANY REDA

Product Engineer

Building intelligent software products from idea to production.

AI • Python • Flutter • Computer Vision • Web • Mobile • Desktop

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PROFESSIONAL SUMMARY

Product Engineer who takes software from a first idea to a production-ready release — owning architecture, backend and frontend implementation, AI/ML integration, and user experience end to end. Comfortable moving across the full stack (Python, Flutter, C++/C#, SQL) and across surfaces (mobile, desktop, web, and backend services), with hands-on experience shipping AI-powered products including a medical-imaging computer vision system and a production Flutter web application. Focused on writing maintainable, scalable code, translating ambiguous requirements into working software, and treating every project as a product with real users rather than a coding exercise.

CORE COMPETENCIES

Product Thinking & Ownership • Full-Stack Development • AI/ML & Computer Vision • Software Architecture & System Design • API Development & Integration • Cross-Platform Mobile & Desktop Apps • UI/UX-Aware Engineering • Database Design • Automation • Scalable, Maintainable Code

TECHNICAL SKILLS

Languages: Python, Dart, C++, C#, SQL, JavaScript

AI / Machine Learning: PyTorch, TorchVision, OpenCV, MONAI, Albumentations, NumPy, Pandas, Scikit-Learn, Matplotlib

Software Development: REST APIs, Backend Development, Frontend Development, Desktop & Mobile Development, Software Architecture, OOP, Design Patterns

Frameworks & Platforms: Flutter, Streamlit, Telegram Bot API

Databases: SQLite, Firebase

Tools: Git, GitHub, Docker, Postman, Android Studio, Visual Studio Code, Visual Studio, Figma

Game Development: Unity, Unreal Engine

Digital Marketing: Google Ads, Campaign Optimization, Analytics

WORK EXPERIENCE

Freelance Product Engineer | *Self-Employed*

2022 – Present

- Design and build complete software products end to end, from concept and architecture through deployment, for individual and small-business clients.
- Develop AI-powered applications, integrating machine learning models into usable, production-facing tools.
- Build desktop software and cross-platform Flutter applications covering mobile, web, and desktop targets.
- Design backend systems and relational databases, and integrate third-party and internal REST APIs.
- Own the full product lifecycle — requirements, architecture, implementation, and deployment — for each engagement.

Software Developer | *HMS Medical Equipment Company*

- Designed and developed the company's official medical equipment website, translating business requirements into a responsive, modern web presence.
- Built a fully responsive UI supporting consistent performance and usability across devices.
- Analyzed business requirements directly with stakeholders to define site structure and content.
- Optimized page performance for faster load times and a smoother user experience.

Software Engineer | *Enterprise Inventory Management System*

- Designed and built a complete inventory management solution deployed over the company's internal network.
- Implemented authentication and role-based permissions to control access across admin and staff users.
- Built an admin dashboard covering inventory management and operational reporting.
- Designed the SQLite database schema and internal networking layer connecting client workstations to the system.

Android Game Developer | Independent / Google Play

- Designed, developed, and published 3 Android games on Google Play, taking each from concept through store release.
- Achieved more than 5,000 combined downloads across published titles.
- Created and managed Google Ads campaigns to acquire users and improve product visibility and conversion.

FEATURED PROJECTS

Fracture Detection AI — End-to-End Medical Imaging Product

- Built a complete AI-powered product covering the full lifecycle: dataset preparation, model training, evaluation, deployment, and user-facing delivery.
- Trained a PyTorch / EfficientNet-B0 computer vision model achieving 90.2% accuracy on fracture detection from medical images.
- Implemented Grad-CAM visual explanations to make model predictions interpretable for end users.
- Shipped an interactive Streamlit dashboard and a Telegram bot interface, backed by SQLite, with automated professional PDF report generation and a multilingual interface.

AuraGift — Digital Gifting Platform (auragift.web.app)

- Designed and built a premium digital gifting platform from product concept through production deployment.
- Built a responsive UI backed by Firebase, with an admin dashboard for managing digital products.
- Integrated AI-driven features to enhance the interactive gifting experience.
- Delivered multi-language support and shaped marketing strategy to support customer experience and adoption.

Enterprise Inventory Management System

- Full-stack internal business system with authentication, role management, an operations dashboard, reporting, and a networked SQLite database.

Android Games (Google Play)

- 3 published titles, 5,000+ downloads, with gameplay systems, performance optimization, store publishing, and Google Ads-driven acquisition.

EDUCATION

Bachelor of Computer Engineering

Tomsk State University of Control Systems and Radioelectronics (TUSUR) — Tomsk, Russia — Expected Graduation: 2028

Relevant coursework: Algorithms, Data Structures, Operating Systems, Software Engineering, Artificial Intelligence, Computer Vision, Machine Learning, Networking, Databases

CERTIFICATIONS & RECOGNITION

- IBM Professional Course — Certificate of Appreciation
- Resala Charity Organization — Certificate of Appreciation, Media Development Manager
- Tomsk State University — Recognition for contributing to the development of an educational Virtual Reality (VR) system

LANGUAGES

Arabic (Native) • English (Full Professional Proficiency) • Russian (Intermediate) • German (Basic)

VOLUNTEERING

Media Development Manager — Resala Charity Organization

- Led digital media development and campaign planning, coordinating cross-functional volunteer teams.