

Abdelrahman Elmorsi

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Control & Automation Engineering student at YTÜ specializing in ICS/OT security, robotics, and full-stack development. Proven track record of building robust embedded systems, developing AI-driven applications, and leading multi-national engineering communities.

EDUCATION

- Yıldız Technical University (YTÜ)** Istanbul, Türkiye
B.Sc. in Control and Automation Engineering Oct 2023 – Present

TECHNICAL SKILLS

Core Engineering: Control Systems, Inverse Kinematics, Embedded Systems, MATLAB, Simulink, Arduino

Software Development: Python, C++, JavaScript/TypeScript, Node.js, React, React Native, PostgreSQL

Cloud & Systems: Cloudflare Workers, Serverless Architectures, KV Storage, WebSockets, Docker

Cybersecurity: ICS/OT Security, Penetration Testing, Wireshark, Nmap, Metasploit, OpenPLC

AI & Data: OpenCV, Random Forest, RAG Systems, LangChain, OpenAI API

PROJECTS

- Industrial Anomaly Detection via Digital Twins | Graduation Project**
 - Developing a Digital Twin architecture to simulate and secure Industrial Control Systems (ICS).
 - Implementing real-time anomaly detection algorithms to identify and mitigate cyber-physical threats in OT environments.
- Robot Arm Ecosystem (Firmware & Mobile App) | YTÜ Yıldız Kaşifleri Grant**
 - Secured funding to engineer a bio-signal controlled robotic platform with 5-DOF motion control.
 - Trained a Random Forest classifier (94% accuracy) to decode EMG signals into real-time servo commands.
 - Built a React Native app interfacing via a Python/Serial bridge, reducing operation latency to under 100ms.
- Barrier-Free Video Accessibility | TEKNOFEST 2025 Finalist**
 - Architected a real-time system translating spoken content into 3D Sign Language animations.
 - Implemented low-latency audio streaming using WebSockets and high-accuracy speech-to-text pipelines.

EXPERIENCE

- YTU Arab Students Union** Aug 2025 – Present
Community Lead & Technical Founder Istanbul, Türkiye
 - Designed and deployed an AI-powered RAG chatbot to automate academic and administrative student inquiries.
 - Founded the Technical Office to digitalize student services, significantly reducing operational overhead.
 - Coordinated cross-functional teams spanning student affairs, media, and event operations.
- YTÜ International Students Club** May 2024 – Jun 2025
Secretary General & Web Lead Istanbul, Türkiye
 - Led a 50+ volunteer, multi-national team driving the club's digital transformation for 450+ members.
 - Built and deployed uokytu.com.tr using Astro, Cloudflare, and Decap CMS.
 - Achieved 123k+ search impressions and 1.8k+ organic clicks in under six months through SEO optimization.

CERTIFICATIONS & ACHIEVEMENTS

- Competitive Cybersecurity & CTFs** 2024 – 2025
 - Placed **6th (2025)** and **9th (2024)** at SKYDAYS CTF.
 - Developed and deployed original Capture The Flag (CTF) challenges for live workshops and events.
 - Co-organized and instructed a university-level Cryptography workshop.
- Cybersecurity Training Program – Core Istanbul** Aug 2025
 - Completed intensive, hands-on training in penetration testing, network security, and Linux administration.