MUHAMMET EMIN GENC

SOFTWARE ENGINEERING STUDENT | AI / COMPUTER VISION | BACKEND

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Location: Çekmeköy / Istanbul, Türkiye



PROFESSIONAL PROFILE

Software Engineering student in an English-taught B.Sc. program, focused on artificial intelligence, computer vision, autonomous systems, robotics, and software architectures for aerospace and defense applications. As Team Lead of VectorX, achieved 3rd place nationwide in the 2026 TEKNOFEST Artificial Intelligence in Aviation Competition with a UAV-oriented object detection and target tracking system. End-to-end experience with Python, PyTorch, YOLO, OpenCV, ROS 2, Java/Spring Boot, Docker/K3s, and PostgreSQL.

TECHNICAL SKILLS

Programming: Python, Java, C++, JavaScript
AI & Computer Vision: PyTorch, YOLOv8, YOLO11, OpenCV, Object Detection, Object Tracking, Local LLM / Agent Architectures (Ollama)
Robotics & Embedded: ROS 2, ESP32, PID Control, SLAM
Backend & Infrastructure: Spring Boot, Spring Security, RESTful APIs, Docker, K3s, PostgreSQL
Tools: Git, Ubuntu Linux, Kali Linux, VS Code, IntelliJ IDEA, SolidWorks

SELECTED PROJECTS

AI-Based Object Detection & Target Tracking for UAVs | Team Lead & AI Developer

- Built a YOLO-based computer vision pipeline with Python, PyTorch, and OpenCV for autonomous target detection, lock-on, and tracking; optimized the model and inference workflow for edge-oriented hardware.
- Led model architecture, technical documentation, and team coordination.

Jarvis v1.0 - v3.0 | Edge-to-Cloud Robotic Device Orchestration | System Architect & Developer

- Designed an architecture for centrally monitoring and managing autonomous ROS 2 devices through a Spring Boot cloud backend.
- Integrated ROS 2, Spring Boot, K3s, PostgreSQL, and computer vision components into distributed edge-to-cloud workflows.

OPEN SOURCE CONTRIBUTIONS

OpenCV - PR #30772 (merged into 5.x) | Nov 2026

- Fixed the 10 px minimum target-size clamp in the TrackerNano object tracker that inflated boxes for small, distant targets; added a regression test. On UAV123 at 640×360, AUC rose from 0.538 to 0.566 (0.264 to 0.352 on targets under 10 px).

Tencent/ncnn - 3 pull requests to the Python bindings | Nov 2026

- Added index, size and buffer checks to Mat accessors and Mat.from_pixels* (#7290, #7289, under review) that prevent out-of-bounds reads/writes and heap corruption; reported a numpy buffer-lifetime bug with a reproduction (#7277, issue #7279).

EXPERIENCE & LEADERSHIP

T3 Foundation / TEKNOFEST Istanbul Provincial Coordination Office | Aug 2026 - Present

- Coordinate university relations, support communication between student clubs and the foundation, and contribute to TEKNOFEST organizational processes.

Nişantaşı University TEKNOFEST Club | 2025 - Present

Board Member (Projects and Competitions)

- Serve on the board in the projects and competitions area, supporting team formation, technical process coordination, and competition reporting across the air defense (Çelikkubbe), unmanned ground vehicle, and blockchain tracks.

EDUCATION

Nişantaşı University - B.Sc. Software Engineering (English) | 2023 - 2028 (Expected)

- 3rd-Year Student | GPA: 2.97 / 4.00 | Istanbul, Türkiye

AWARDS & TRAINING

- **3rd Place in Türkiye** - 2026 TEKNOFEST Artificial Intelligence in Aviation Competition | VectorX Team Lead
- **National Technology Summit: Future of the Domestic Defense Ecosystem** - Nişantaşı University & T3 Foundation | Mar 2026
- **Speed Reading with Comprehension** - İstanbul Enstitüsü | Dec 2020 | 700 words per minute

PROGRAMS, LANGUAGES & INTERESTS

Programs: Talentcoders CodeSprint Participant (Oct 2025); Siber Vatan Program / Hackviser CTF Participant (Oct-Dec 2025)
English: B2 - Upper-intermediate **Arabic:** A2 - Elementary
Interests: Defense-tech entrepreneurship, autonomous systems, embedded hardware, and electronic circuit design

Prepared: November 2026