Ethem Demir

📞 **Phone number:** (+90) 5418684105   ✉ **Email address:** demirethem49@gmail.com

in **LinkedIn:** https://www.linkedin.com/in/ethem-demir/

ABOUT ME

I hold a degree in Information Systems Engineering, specializing in Autonomous UAV Systems and Computer Vision. As the Founder of Poyraz Aviation, I led the UAV team as Captain and Software Unit Leader, and established 'The SAU Unmanned Aerial Vehicles Community,' mentoring UAV teams for two years.

During my internship, I gained expertise in Computer Vision and Deep Learning, which I further applied at Dasal Aviation as a Computer Vision Software Development Engineer. There, I contributed to Image Transmission Systems, Swarm UAV studies, UAV simulations, drone assembly, and communication systems.

With a strong foundation in AI, software development, UAV systems, and project management, I am eager to contribute to innovative organizations.

WORK EXPERIENCE

Software Engineer

Mostas Technology [Current]

City: Istanbul | **Country:** Türkiye

- Agricultural Disease detection and classification AI Model (Data labeling & Model Training & Development)
- AI-Based Agricultural Dashboard Development (Full Stack Development: Frontend, Backend, API Integrations)
- Autopilot Independent Drone Mapping (Jetson, Camera, GPS, Cloud, Dashboard, Network Communication)
- AI Agent Development
- System Architect

Computer Vision Software Development Engineer

Dasal Aviation [20/05/2024 – 21/08/2024]

City: Istanbul | **Country:** Türkiye

Developing image transmission systems
Conducting swarm UAV studies (e.g., Crazyswarm)
Engaging in UAV simulations using ROS, ROS2, Gazebo, Webots, and Crazyswarm2
Assembling drones from scratch for R&D purposes
Implementing computer vision techniques for detection and tracking
Managing communication protocols (TCP, UDP, SSH, Ethernet)

Software Manager

Poyraz Aviation [01/10/2021 – 01/05/2024]

City: Sakarya | **Country:** Türkiye

During the 2022-2023 period at Poyraz Aviation, I served as both Software Unit Lead and Team Captain. I managed drone component installations, including flight cards, telemetry, remote controls, and Raspberry Pi setups.
I utilized tools like Mission Planner, Gazebo, ROS, VMware, VirtualBox, WSL (Ubuntu), Pi Imager, Putty, VNC Viewer, Visual Studio, and Unity.
Key expertise includes:
- **AI/ML/DL**: YOLO, TensorFlow, PyTorch, NVIDIA AI PC's
- **Image Processing**: OpenCV, Pyzbar (Python)
- **Autonomous Mission Flight**: Dronekit, Pymavlink (Python)
- **Interface & Ground Control**: C#, PyQt
- **Communication**: MAVSDK, Pymavlink, Socket Programming

Skills: Raspberry Pi, Flight Simulation, Flight Management, Safety, Process Improvement, Python, Information Security, GitHub, and more.

Learning remains a lifelong journey, and I continue to grow my expertise.

Project Manager
Marmara Agriculture Aviation [05/05/2023 – 05/09/2023]

City: Sakarya | **Country:** Türkiye

I was responsible for Project Development in a company that carries out R&D and P&D activities on Drone Technologies. I also worked as a Drone Pilot here.

Software Development Intern
ithinka [04/09/2023 – 24/10/2023]

City: Bursa | **Country:** Türkiye

At Ithinka, I completed my university internship, developing image processing projects using deep learning with NVIDIA AI Development Cards to meet diverse customer needs.

EDUCATION AND TRAINING

Information System Engineer
Sakarya University [05/09/2020 – 10/06/2024]

- I founded and served as President of the Unmanned Aerial Vehicles Society and was a member of the University's Student Senate.
- I held roles as Team Leader, Project Manager, and Software Team Leader in International UAV Competitions.
- My undergraduate design focused on "Detection and Tracking of Unmanned Aerial Vehicles with AI-based Computer Vision," and I completed my graduation thesis on "AI Optimization in Electric Bus Fleets" for Otokar.

LANGUAGE SKILLS

Mother tongue(s): Turkish

Other language(s):

English
LISTENING C1 **READING** C2 **WRITING** C1
SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B2

German
LISTENING A2 **READING** B1 **WRITING** B1
SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PROJECTS

ZINK VTOL (Deliver Autonomous Operational Equipment in Emergency Situations)
To improve the efficiency of equipment transport in emergencies, our Poyraz Aviation team, under my leadership as Project & Software Manager, developed the "Cargo VTOL for Autonomous Equipment Transport in Open Waters" project. This solution offers a safe, efficient alternative to traditional methods like helicopters.

Poyraz Drone (Providing Border Security)
Our border security drone autonomously patrols designated coordinates, detecting and identifying people, animals, and objects. It captures photos of detected individuals, logs coordinates and timestamps, and transmits data to the ground control station, with facial detection capabilities. This project, for which I developed all original software and managed both general and software aspects, was a finalist in the 2022 International Free Mission UAV Competition (Tubitak & Teknofest).

SolarGuard (Solar Panel Damage Detection Drone)

Our autonomously flying drone can instantly detect faulty solar panels with the data it receives from its thermal and normal cameras. We registered our success with our project by placing 11th in the International UAV Competition.

PoesiDrone (Water Analysis Drone)
With the water analysis kit (TDS) in the drone's mission mechanism, it tests many data such as drinkability, pH, and temperature of water in real-time and transfers them to our ground control station.

Otokar e-Range Calculator
I did my undergraduate graduation project for Otokar. I cannot talk about the project details due to the contract, but I developed the entire software of this system, which is related to the optimization of electric bus fleets, on my own.

HONOURS AND AWARDS

[15/11/2023] MÜSİAD
G-FAST Entrepreneur Competition 1st Place
We came first in the Turkey-wide "Entrepreneurs of the Future" Competition organized by MUSIAD and Sakarya Teknokent with the project "Damage Detection with Drone in the Energy Sector". As a result of the competition, we won a prize of 20,000 TL.

[30/04/2023] Tübitak
Teknofest 2023 International UAV Competition
We achieved great success with Poyraz Aviation by placing 9th among more than 3000 applicants in the Teknofest 2023 International UAV competition. I took on the Team Captain and Software Responsibility in the project.

TUBİTAK
Teknofest 2023 International UAV Competition
We achieved great success with Kuara Aviation by placing 11th among more than 3000 applicants in the Teknofest 2023 International UAV competition. I took on the Software Mentor and Project Manager in the project.

[15/08/2022] TUBITAK
Teknofest 2022 International Free Mission UAV Competition
We achieved great success as one of the top 20 teams among thousands of applicants in the Teknofest 2022 International Free Mission UAV competition. I took over the Software Responsibility of our team. He completed his task in a 100% autonomous manner in our project.

VOLUNTEERING

Community President
  • Establishing the Unmanned Aerial Vehicles Society and serving as its President
  • University's Student Senate Membership
  • I took on the duties of Team Leader, Project Manager, and Software Team Leader in International UAV Competitions.