Onur Ozan Sünger

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COMPUTER ENGINEER · DATA SCIENTIST · GRAPH MACHINE LEARNING

Computer Engineer and Data Science MSc candidate specialising in graph machine learning. My master's research builds adversarial graph-neural-network systems for anomaly detection in water-infrastructure sensor networks, spanning the full pipeline from PyTorch / PyTorch Geometric modelling to data engineering and deployment. Backed by internship R&D in embedded systems and government-scale information systems, with a strong interest in GNN research, MLOps, and applied ML.

TECHNICAL SKILLS

Languages
Python, C/C++, Java
SQL, R, Swift

Machine Learning / AI
PyTorch, PyTorch Geometric (GNNs)
scikit-learn, OpenCV
Anomaly detection, RL

Data & Tooling
PostgreSQL, Docker, Spring Boot
ETL, Streamlit
Git, Linux, Next.js

RESEARCH & PROFESSIONAL EXPERIENCE

Sapienza University of Rome — MSc Thesis (Graph Machine Learning) **2025 – 2026**
Adversarial Self-Play GNNs for Water Distribution Network Cyber-Defence (Supervisor: Prof. Francesca Cuomo)
Built a GNN defender (GraphSAGE + GRU + Mixture-of-Experts) that reconstructs missing pressure/flow readings and flags compromised sensors in water distribution networks. Designed a Stackelberg self-play loop (attacker GNN ↔ defender GNN) that generalises to attack types never seen in training. On the Modena network: anomaly F1 0.767 (+5.8%), pressure error –23%, reproducible across multiple seeds. Code: github.com/onurozansunger/wdn-thesis

Sapienza University of Rome — Research Project (Network Medicine) **2024**
Disease-Gene Prediction & Drug Repurposing for Anxiety Disorders
Predicted candidate risk genes with DIAMOnD and heat-diffusion methods over PPI interactomes (STRING), then ranked drug-repurposing candidates — with Buspirone surfacing as the top hit. Python, network analysis.

AI Developer — Personal Project **Feb 2024 – Jun 2024**
Real-time Emotion-Aware Music Recommender
Built a real-time model (Python, OpenCV, deep learning) that detects user emotions from webcam input and plays context-aware playlists via the Spotify API, with an adaptive UI.

KAREL Electronics, Ankara — Computer Engineering Intern **Jan 2023 – Jun 2023**
Embedded Systems R&D
Conducted R&D on embedded devices in C/C++ on Linux; built a responsive internal system-monitoring website (HTML/CSS).

Presidency of Revenue Administration, Ankara — Software Intern **Jul 2022 – Jan 2023**
Backend & Data Engineering
Contributed to government-scale information systems and a CV-filtering web application (Java, Spring Boot, PostgreSQL, Docker); developed secure backend data-handling logic.

EDUCATION

MSc in Data Science
Sapienza University of Rome · 2023 – Present

BSc in Computer Engineering
OSTIM Technical University, Ankara · 2019 – 2023 · GPA 3.04/4.00

ACTIVITIES & LANGUAGES

President — IEEE OSTIMTECH Student Branch
2021 – 2022 · Organised technical webinars, networking events and hackathons.

Languages
Turkish (Native) · English (C1) · Italian (A2) · German (A1)