MEHMET TURAN YARDIMCI

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Robotics Software Engineer

• Computer Engineering graduate specialized in robotics, AI, and autonomous systems
• Led a university UAV team (1.5 Adana AGM ALKAR) for 3 years, managing projects with YOLO, ROS1/2, Gazebo
• Implemented PPO and SAC algorithms from scratch for MuJoCo Ant-v5, achieving 2700+ reward
• Developed object detection systems using YOLOv4-v8, integrated with Isaac Sim, Jetson Nano and Pixhawk
• Senior thesis on local planner benchmarking (BARN dataset) is under publication review
• Passionate about contributing to high-impact R&D teams building real-world intelligent systems

WORK EXPERIENCE

Medcem **07/2025 - 08/2025**
Computer Engineer Intern • Internship **Mersin/Silifke**
• Supported in-house software development using .NET and C#
• Designed and implemented algorithmic solutions for cement production automation
• Gained hands-on experience in software architecture, debugging, and UI design

1.5 Adana AGM Alkar **01/2022 - 07/2025**
Team Leader • Part-time **Adana, Türkiye**
• Managed a 10+ member team in designing autonomous UAV systems
• Led participation in TEKNOFEST competitions
• Designed AI-based image processing modules and simulations for autonomous navigation
• Integrated ROS-based pipelines using YOLOv7, Jetson Nano, and Pixhawk flight stack

EDUCATION

Bachelor's degree in Computer Engineering (English)
Çukurova Üniversitesi Adana/Turkey • 10/2021 - 07/2025

Erasmus+ Bachelor's degree, Computer Science in Computer Science (English)
BİALYSTOK UNİVERSİTY OF TECHNOLOGY Poland • 01/2024 - 01/2025

CERTIFICATIONS

Supervised Machine Learning: Regression and Classification
Coursera - https://www.coursera.org/account/accomplishments/verify/CYR7P427QQWB

PROJECTS

MuJoCo Ant Locomotion with PPO/SAC 09/2025 - 11/2025
• Implemented PPO and SAC algorithms from scratch for the MuJoCo Ant-v5 environment using pure NumPy and PyTorch (no stable-baselines3)
• Achieved 2700+ reward through careful hyperparameter tuning, reward shaping, and network architecture optimization (256-256-128 actor-critic)
• Integrated parallel environments (16 envs), GAE (λ=0.95), observation normalization, and learning rate annealing for stable training
• Technologies: Python, PyTorch, NumPy, MuJoCo, TensorBoard, Git
• https://github.com/mturan33/mujoco-ant-ppo-sac

Benchmark Local Path Planners BARN Challenge 03/2025 - Present

- Developed a benchmarking framework to evaluate local path planners in complex and cluttered environments using ROS and the BARN dataset. The system integrates multiple planning algorithms and evaluates their performance under robot navigation scenarios. A related paper will be published soon.
- Technologies: ROS, Gazebo, Python, NumPy, Matplotlib, RViz, Git
- Developed a benchmarking tool in ROS using the BARN dataset to evaluate planner performance
- Compared multiple algorithms (e.g., DWA, TEB) in cluttered environments
- https://github.com/mturan33/benchmark-local-path-planners-barn-challenge

Live Actor-Critic Training for CartPole 07/2025 - 09/2025

• Created an interactive Streamlit web application demonstrating real-time Reinforcement Learning training
• Implemented Actor-Critic algorithm with adjustable hyperparameters for educational purposes
• Visualized learning curves, policy evolution, and value function in real-time
• Technologies: Python, PyTorch, Streamlit, Gymnasium (CartPole-v1)
• https://github.com/mturan33/my-actor-critic

PID Implementation with NXT Robot 12/2024 - 02/2025

- Implemented a PID control algorithm on LEGO Mindstorms NXT robots to enable motor control using real-time sensor feedback.
- Technologies: NotExactlyC (NXC), Bricx Command Center, PID Controller
- https://github.com/mturan33/PID_Implementation_With_NXT_Robot

Bank Application And Its Tests With JUnit 10/2024 - 01/2025

- Developed a banking application in Java with unit testing using JUnit. Test coverage is reported using the JaCoCo plugin via Maven integration. Deployed with Glassfish.
- Technologies: Java, Jacarta EE, JUnit, Maven, JaCoCo, Glassfish
- https://github.com/mturan33/BankTestWJUnit

Weather Forecasting Mobile Application 10/2024 - 01/2025

- Created a weather forecasting mobile application using Kotlin and the OpenWeather API. It provides real-time weather data based on the user's location or an selected location.
- Technologies: Kotlin, Android Studio, REST API
- https://github.com/mturan33/WeatherApp

SKILLS

Robotik & Yapay Zeka: CNNs, Gazebo, Isaac Sim, OpenCV, ROS, ROS2

Programlama: Algorithms, C, C++, Java, Kotlin, Python, SQL

Araçlar ve Kütüphaneler: Android Studio, EJB, Git, Jakarta EE, JSF, Unreal Engine

Donanım Platformları: Nvidia Jetson, Pixhawk

Diğer: APIs, Data Structures, English (Advanced), OOP