

Burcu Kılıç

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Education

Middle East Technical University <i>Computer Engineering Master's</i>	Sep 2026 - Present <i>Ankara, Türkiye</i>
Boğaziçi University <i>Computer Engineering</i>	Oct 2021 - Jan 2026 <i>Istanbul, Türkiye</i>
KTH Royal Institute of Technology <i>Computer Science and Engineering (Exchange Student)</i>	Jan 2024 - May 2024 <i>Stockholm, Sweden</i>

Experience

Graduate Research Assistant <i>Middle East Technical University</i> Working on world model-based reinforcement learning methods.	Sep 2026 – Present <i>Ankara, Turkey</i>
Data Scientist <i>PragmaCraft</i> - Developed features for Answie, a document search and RAG platform. - Built agentic AI pipelines with document indexing and grounded LLM answer generation. - Implemented efficient backend with FastAPI, Celery, PostgreSQL, Next.js, etc.	April 2026 – July 2026 <i>Istanbul, Turkey</i>
Research Assistant <i>CoLoRs (Cognitive Learning and Robotics), Boğaziçi University</i> - Published two IEEE conference papers on the discovery of robotic skills and robotic planning - Trained deep learning models on both simulation and real robot data - Worked with PyBullet and Mujoco, also in real robots such as xArm and TurtleBot	Dec 2024 – Jan 2026 <i>Istanbul, Turkey</i>
Computer Vision Intern <i>Myth AI</i> - Used depth (MiDaS) and segmentation (SAM) models to build garment compositing pipelines - Used OpenCV for image warping, alignment, and multi-layer compositing	Aug 2025 – Sep 2025 <i>Istanbul, Turkey</i>
Visiting Researcher <i>University of Innsbruck</i> - Implemented the decision transformer architecture from scratch with PyTorch - Explored reinforcement learning methods on large datasets such as D4RL and OGBench	Jun 2025 – Aug 2025 <i>Innsbruck, Austria</i>
Machine Learning Intern <i>MTU Aero Engines</i> - Created LLM-based Agentic AI systems with Langchain on Azure ML Workspaces - Created PostgreSQL database dashboards with Quarto and Shiny Server in RStudio - Performed data analysis and forecasting techniques for large financial data	Jun 2024 – Sep 2024 <i>Munich, Germany</i>
AI Developer <i>Modamind</i> - Trained generative models (Stable Diffusion) using LoRA for virtual fashion applications - Finetuned ControlNet on collected and preprocessed large data for pose-conditioned image generation - Developed RAG pipeline with Llama and GPT models for summarization of fashion-related text - Worked on Google Cloud Computing workspaces and containerized solutions with Docker	July 2023 – Jan 2024 <i>Istanbul, Turkey</i>

Publications

- B. Kilic, D. Drexel, E. Ugur, J. Piater, **Effect-Driven Skill Abstractions for Offline Reinforcement Learning**, Accepted at NeurIPS 2026
- B. Kilic, B. Kartal, F. Dogangun, E. Oztop, E. Ugur, **Joint Discovery of Object and Action Symbols through Effect Prediction for Robotic Manipulation Planning**, Preprint, 2026
- B. Kartal, B. Kilic, Y. Yildirim, E. Ugur, **Trajectory Learning with Graph Representations for Social Robot Navigation**, Preprint, 2026
- F. Dogangun, B. Kilic, S. Bahar, E. Ugur, **Bilevel Planning with Learned Symbolic Abstractions from Interaction Data**, IEEE Robotics and Automation Letters, vol. 11, no. 11, pp. 12599-12606, Nov. 2026.
- B. Kilic, A. Ahmetoglu, E. Ugur, **Predictability-Based Curiosity-Guided Action Symbol Discovery**, IEEE International Conference on Development and Learning (ICDL), 2025
- B. Kilic, A. Ahmetoglu, E. Ugur, **Learning Action Primitives in Manipulation Robots**, The 33rd IEEE Conference on Signal Processing and Communications Applications (SIU), 2025

Skills

Programming Languages: Python, SQL (MySQL, PostgreSQL), R, Java, C/C++, MATLAB
ML/DL Frameworks: PyTorch, Diffusers, Scikit-Learn, XGBoost, Transformers
Data Analytics: NumPy, Pandas, Scikit-learn, Data Visualization (Matplotlib, Seaborn)
MLOps / Systems: Docker, W&B, Azure ML, Google Cloud, Model Deployment (Streamlit, FastAPI)