Onur Berk Töre

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Education

2019 **M.Sc. in Computer Engineering**, *Koç University*, 3.75/4.0.
Autonomous, Learning and Interactive Agents Research Laboratory

2014-2019 **B.Sc. in Computer Engineering**, *Yeditepe University*, 3.35/4.0.
Robotics and Intelligent Systems Laboratory

Research & Development Experience

2019 **Researcher**, *ALIVE Laboratory, Koç University*, Supervisor: Dr. Barış Akgün.

- In my current work, I am trying to combine Probabilistic Graphical Models (Dynamic Bayesian Networks) with current RL approaches in Learn from Demonstration setting in Robotics. While probabilistic models are powerful, in order to work they require good representation states. Furthermore, models achieve poor results compared to Neural Networks in generalization and transferability. In order to leverage both sides, we are using current DL architectures such as Auto Encoders and GANs to generate good input to these models. To increase the transferability we are trying to learn Neural Networks with supervised learning and Reinforcement learning techniques to better transfer the information stored in the probabilistic models.

2018 **Undergraduate Researcher**, *Robotics & Mechatronics Laboratory, Koç University*, Supervisor: Dr. Çağatay Başdoğan.

- Worked on the electrovibration effect on a haptic touchscreen interface and investigated the geometric transformations of the fingerprint under this effect.
- Showed the change in the shear strain values of fingerprint under the electrovibration effect.

2017 **Software Developer**, *Yeditepe University*.
European Union Erasmus+ KA203 Strategic Partnership Project
Title: Timeline Travel, An Alternative Tool for Architectural History Learning and Teaching
Budget: 195.000 Euros
More Info: timelinetravelproject.gantep.edu.tr

- Core developer of the team, worked together with a Ph.D. student to build TTravel tool, an interactive 2D dynamic map creation plugin designed for web.
- This project is selected as "Good Practice Example" by the European Commission.

2016 **Undergraduate Researcher**, *Robotics & Intelligent Systems Lab., Yeditepe University*, Supervisor: Dr. Ayşe Küçükyılmaz.

- Modified C++ 2D Physics engine of an Geomagic haptic game to allow users to play with an agent that decides the next movement depend on the basic robotic path planning algorithms (Potential Field and Wavefront)
- Applied haptic rendering for rigid body simulation on Geomagic Touch devices.
- Performed teleoperation (Using PID controller) for haptic devices via connection over the network.

Teaching Experience

2018-2020 **Teaching Assistant**, *Koç University*.

- Introduction to Artificial Intelligence, (COMP341)

Course follows the same curriculum from Berkeley CS188 Introduction to AI. I was the main TA for Probabilistic Graphical Models Part, and also made contributions to the search part. We also open the course to private institutions in Turkey.

2016-2017 **Undergradute Lab Assistant**, *Yeditepe University*.
- Data Structures (CSE 211), C++
- Fundamentals of Computer Programming (CSE 114), C

Languages

- **Turkish:** Native
- **English:** C1 CEFR (TOEFL: 103/120, IELTS: 7.5/9.0)

Technologies

- **Languages:** Python2/3, Matlab, Julia, C++, C, Java, MySQL, Matlab, JavaScript, PHP
- **Software:** ROS, Moveit, Rviz, Gazebo, OpenHaptics, LeapMotionSDK, Numpy, Pytorch, Tensorflow, Pandas, Sklearn, Weka, OpenCV, Open3D, OpenInventor, Visjs, Leaflet, SUMO, Boost, Bootstrap
- **Hardware:** Panda Franka Emika Arm, Geomagic Haptic Touch devices, Kinect1&2, Turtlebot