Batuhan Bal

✉ bal.batuhan@metu.edu.tr | ○ batubal | in batuhanbal

EDUCATION

Middle East Technical University — Ankara, Turkey
Bachelor of Computer Engineering — *Expected July 2023*
- CGPA: 3.75
- Minors in Mathematics (CPGA: 3.50)

EXPERIENCE

Undergraduate Researcher — July 2021 – Present
Affective Intelligence and Robotics Lab (AFAR) — *University of Cambridge, Department of Computer Science, UK*

Project 2 Description: — *February 2022 - Present*
- Facial Reaction Prediction
- Generative Adversarial Network
- Work on project which aims to develop multi-modal network whose input is the audio-visual non-verbal cues displayed by the conversational partner (i.e., the speaker), and the output is the target subject's (i.e., the listener) facial reaction.

Project 1 Description: — *July 2021 - February 2022*
- Facial Action Unit Recognition
- Self-Supervised Learning
- Work on project which aims to detect facial action units using Capsule Networks.
- Implement self-supervised learning methods in TensorFlow to increase the performance of model.

Research Intern — July 2020 – July 2021
KOVAN Research Lab — *Middle East Technical University, Turkey*

Project Description:
- Assembly Planning
- Reinforcement Learning
- Work on project which aims to learn automated assembly plan with just the 3D target object provided.
- Create a reward function to use in deep reinforcement learning algorithm by comparing two point cloud object using Iterative Closest Point algorithm.

PUBLICATIONS

- O. Aslan, B. Bolat, **B. Bal**, T. Tumer, E. Sahin, S. Kalkan, "AssembleRL: Learning to Assemble Furniture from Their Point Clouds", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), accepted, 2022.

- Y. Terzioglu, O. Aslan, B. Bolat, **B. Bal**, T. Tumer, F. C. Kurnaz, S. Kalkan, E. Sahin, APPRENTICE: Towards a Cobot Helper in Assembly Lines, ICRA2021 Workshop on Unlocking the Potential of HRC for Industrial Applications, 2021.

HONORS AND AWARDS

- 1st rank in CENG DemoDay 2022 (Graduation Project Fair) amongst all other projects with DIP project.

TECHNICAL SKILLS

Languages	Programming Languages	Libraries	Developer Tools
Turkish (Native)	Python	TensorFlow	Github / GitLab
English (Advanced)	C/C++	PyTorch	
Russian (Elementary)	MATLAB	Numpy	
Japanese (Elementary)		Pandas	

Extracurricular Activities

Community Head   October 2019 - November 2021
METU Bridge Club

Club Member   October 2020 – Present
METU Communication Society
- Voluntary participation in aid provided to village schools