

## Professional Experiences

**2020 – Now** **Research Engineer at DeepMind**, London, UK.

June

**2020 – 2020** **Research Engineer at OMRON SINIC X**, Tokyo, Japan.

March June

- Developed Neural A\*, a novel data-driven search algorithm for path planning problems. [preprint](#).

**2019 – 2019** **Research Intern at OMRON SINIC X**, Tokyo, Japan.

March September

- Developed MULTIPOLAR, a transfer reinforcement learning method that leverages a set of source policies collected under diverse unknown environmental dynamics to quickly learn a target policy in a new dynamics. [code](#), [paper](#) (published in IJCAI 2020), [extended abstract](#) (published in ICLR 2020 BeTR-RL Workshop).

**2018 – 2018** **Software Engineering Intern at Google**, Google AI, Zürich, Switzerland.

May September

- Developed reinforcement learning methods for combinatorial optimization problems using graph neural networks.
- Developed graph neural network models to predict locations of twitter users from their tweet text and network.

**2017 – 2018** **Research Assistant at Technical University of Munich**, Computational Biology Lab, Germany.

April April

- Developed a deep neural network module based on spline transformation to robustly model distances to various genomic landmarks, which significantly increased state-of-the-art prediction accuracy of RNA-binding protein binding sites for 114 out of 123 proteins. [code](#), [paper](#) (published in Bioinformatics journal)

**2016 – 2017** **Research Intern at National Institute of Informatics**, Tokyo, Japan.

September March

- Initiated, coordinated and developed Okutama-action: a novel aerial view video dataset for the task of detecting concurrent actions of multiple humans. [okutama-action.org](http://okutama-action.org), [paper](#) (published in CVPR Workshops)
- Developed highly accurate, light-weight deep models for semantic segmentation task using model compression techniques. Final models were faster by 50% and more accurate by 5%. [paper](#) (published in CVIU journal)

## Education

**2015 – 2019** **MSc in Computer Science**, Technical University of Munich, Germany.

October November

- GPA: 1.2 (Grading system: 1.0 best–4.0 pass), Passed with high distinction: Ranked top 9.1% among 604

**2011 – 2015** **BSc in Computer Engineering - Hardware**, University of Isfahan, Iran.

September July

- GPA: 18.57/20, Top Student: Ranked 1/28

## Peer-reviewed Publications

- **M. Barekatain**, R. Yonetani, M. Hamaya, *MULTIPOLAR: Multi-Source Policy Aggregation for Transfer Reinforcement Learning between Diverse Environmental Dynamics*. In **IJCAI**, 2020.
- M. Mahdavinejad, M. Rezvan, **M. Barekatain**, P. Adibi, A. Sheth, *Machine learning for Internet of Things data analysis: A survey*. Digital Communications and Networks, 2018.
- **M. Barekatain**, M. Marti, H. Shih, S. Murray, K. Nakayama, Y. Matsuo, H. Prendinger, *Okutama-Action: An Aerial View Video Dataset for Concurrent Human Action Detection*. In **CVPR Workshops**, Hawaii, USA, 2017.
- Z. Avsec, **M. Barekatain**, J. Cheng, J. Gagneur, *Modeling positional effects of regulatory sequences with spline transformations increases prediction accuracy of deep neural networks*. **Bioinformatics**, 2017.
- A. Holliday, **M. Barekatain**, J. Laurmaa, C. Kandaswamy, H. Prendinger, *Speedup of Deep Learning Ensembles for Semantic Segmentation Using a Model Compression Technique*. Computer Vision and Image Understanding, 2017.
- M. Rezvan, **M. Barekatain**, A. Zaeri, K. Taghandiki, *Applying an innovative semantic sensor network model in internet of things*. In International Conference on Information and Communication Technology Convergence, 2015.
- M. Rezvan, **M. Barekatain**, *The Sensors Are Innovative in Internet of Things*. In International Wireless Internet Conference, Lisbon, Portugal, 2014.