Eren Sezener

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Education

2015–2018 **M.S. in computational neuroscience**, *Technical University of Berlin*, Berlin, Germany.
Thesis: Computing the Value of Computation for Planning
Thesis Advisor: Peter Dayan (Gatsby Unit, University College London)
GPA: 1.3/6.00

2010–2015 **B.S. in computer science**, *Ozyegin University*, Istanbul, Turkey.
Transferred from *Bogazici University* with 3 semesters of credits
Major GPA: 4.00/4.00

Positions Held

Research

01/2019–current **Research Engineer**, *DeepMind*, London, UK.
Working at the core research engineering team.

10/2016–03/2017 **Visiting Student**, *Gatsby Unit, University College London*, UK.
The theoretical part of my work proposes principled ways in which one could value computations for approximate planning. The applied part leverages these principles to obtain a Monte Carlo tree search algorithm, that is more sample-efficient than the state-of-the-art.

02/2016–07/2016 **Research Assistant**, *Neural Information Processing Unit, Technical Uni. of Berlin*, Germany.
Developed machine learning models to predict addictive behavior from brain-imaging data.

Summer 2014 **Research Intern**, *Neural Computation Unit, Okinawa Inst. of Science and Technology*, Japan.
Implementing methods for inferring reward functions of freely moving rodents.

02/2013–09/2015 **Research Assistant**, *Robotics Laboratory, Ozyegin University*, Istanbul, Turkey.
Obtained many new results concerning theoretical properties of Higher Order Neurons—which are perceptrons enriched with input correlations. Developed inverse reinforcement learning methods and applied them to human behavior.

Summer 2013 **Research Intern**, *Intelligent User Interfaces Laboratory, Koc University*, Istanbul, Turkey.
Implemented a real-time machine learning system that predicts actions based on eye movements.

Industry

09/2018–12/2018 **Data Scientist**, *KAYAK*, Berlin, Germany.
Developed both shallow and deep learning models, and predicted aesthetic qualities of hotel images within 11% of the mean human opinion.

Summer 2016 **Software Engineering Intern**, *KAYAK*, Berlin, Germany.
Developed models for predicting future flight prices with confidence intervals based on millions of past flights.

04/2011–11/2011 **Co-Founder**, *Yapanzi*, Istanbul, Turkey.
Created an online marketplace for micro-services that reached more than 20k registered users and achieved up to 50 transactions per day.

Publications

Journals

In press **CE Sezener**, Amir Dezfouli, and Mehdi Keramati. Optimizing the depth and the direction of prospective planning using information values.

2015 **CE Sezener** and Erhan Oztop. Minimal sign representation of Boolean functions: algorithms and exact results for low dimensions. *Neural Computation*, 27(8).

Conferences

2017 **CE Sezener** and Erhan Oztop. Algorithms for obtaining parsimonious Higher Order Neurons. In *the 26th International Conference on Artificial Neural Networks (ICANN)*.

2015 **CE Sezener**. Inferring human values for safe AGI design. In *the 8th Conference on Artificial General Intelligence (AGI)*.

Abstracts and Workshops

2017 **CE Sezener** and Peter Dayan. Approximate planning from better bounds on Q. In *the 3rd Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM)*.

2015 **CE Sezener**, Luka Peternel, Jernej Camernik, Jan Babic, and Erhan Oztop. Modeling of human postural adaptations using reinforcement learning. In *the Workshop on Learning for Human-Robot Collaboration at Ro-Man*.

2014 **CE Sezener**, Eiji Uchibe, and Kenji Doya. Obtaining reward functions of rats using inverse reinforcement learning. In *the 1st Turkish Conference on Autonomous Robots*.

Awards and Honors

2015-2018 Scholarship for Master's Studies in Germany (≈35,000€) – DAAD/TEV

2017 Merit-based Student Travel Award – ENNS/ICANN

2013-2015 Academic Merit Stipend – Ozyegin University

2012-2015 Dean's Scholarship, Full Tuition Waiver – Ozyegin University

2014 Research Internship Stipend – Okinawa Institute of Science and Technology

2009 Ranked 77th among 250,000 participants from Istanbul – Turkish University Entrance Exam

Summer Schools and Other Courses

July 2017 Summer School on Learning Systems, ETH Zurich

Selected Software Contributions

2016 **NumPy**.
Co-authored generalized FLIP and ROT90 functions. Links: github.com/numpy/numpy/pull/7346 & github.com/numpy/numpy/pull/7347

2014 **KUKA RSI 3 Communicator (KR3C)**.
Authored the first software that enables controlling KUKA manipulators in real-time via the latest KUKA interface (RSI 3). This software is used by various research labs and companies (MIT, Georgia Tech, Volkswagen etc.). Link: github.com/erensezener/kuka-rsi3-communicator

Technical Skills

Expert Python (numpy, scipy, scikit-learn etc.), Matlab

Experienced Java, SQL, UNIX

Familiar R, C, C++, C#, F#, Hive