

# Hüseyin Aydın

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## Education

**Ph.D., Computer Engineering,**  
Middle East Technical University, 2017 - Present  
*Supervisor: Prof. Dr. Faruk Polat*  
*Co-supervisor: Dr. Erkin Çilden*  
GPA: 3.64/4.00

**M. Sc., Computer Engineering,**  
Middle East Technical University, 2015 - 2017  
*Supervisor: Prof. Dr. Faruk Polat*  
GPA: 3.71/4.00

**B. Sc., Computer Engineering,**  
Middle East Technical University, 2010 - 2015  
GPA: 3.41/4.00

## Work Experience

**Middle East Technical University**  
Research and Teaching Assistant, Oct, 2015 - Present

**Software Research & Development Consultancy**  
Part-time Software Developer, Nov, 2013 - Dec, 2014

**LockSmith Software Technologies**  
Intern Software Developer, Summer 2013

**Middle East Technical University**  
Student Assistant, 2012 Spring  
CENG230 - Introduction to C Programming

## Dissertation

“Automatic Identification of Transitional Bottlenecks in Reinforcement Learning under Partial Observability”  
*M.Sc. Thesis, Middle East Technical University, Department of Computer Engineering, 2017*

## Research Projects

**Program and Capacity Management System for Council of Higher Education (YÖK)**  
Supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK) under Grant No. 115G086.  
Sep, 2018 - May, 2020

**A Stakeholder Oriented Intelligent System for Energy Retrofit**  
Supported by British Council and the Scientific and Technological Research Council of Turkey  
(TÜBİTAK) under Grant No. 217M519.  
June, 2018 - Sep, 2018

**Subgoal Identification in Sequential Decision Making under Partial Observability**  
Supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK) under Grant No. 215E250.  
May, 2016 - May, 2018

Publications	<p>H.Aydın, E. Çilden, F. Polat “Using chains of bottleneck transitions to decompose and solve Reinforcement Learning tasks with hidden states,” <i>Future Generation Computer Systems</i>, Vol. 133, pp.153-168 August, 2022</p> <p>H.Aydın, E. Çilden, F. Polat, “Compact Frequency Memory for Reinforcement Learning with Hidden States” <i>In PRIMA 2019, 22<sup>th</sup> International Conference on Principle and Practice of Multi-agent Systems</i>, October, 2019, Torino, ITALY</p> <p>H.Aydın, E. Çilden, F. Polat, “Using Transitional Bottlenecks to Improve Learning in Nearest Sequence Memory Algorithm” <i>In ICTAI 2017, 29<sup>th</sup> International Conference on Tools with Artificial Intelligence</i>, November, 2017, Boston, MA, USA</p> <p>M. Gençtürk, E. Alpay, G. B. L. Ertürkmen, A. Doğaç, H. Aydın, “Self-Management of Patients with Severe Arthritis through a Personal Health System: the Turkish Case Study in the PALANTE Project”, <i>In eChallenges 2014 Conference</i>, October, 2014, Belfast, IRELAND</p>	
Translations	<p>H.Aydın, F. Yarman Vural, “Derin Modellerin Eğitiminde Eniyileme” [Optimization for Training Deep Models]. In “<i>Derin Öğrenme</i>” [<i>Deep Learning (Goodfellow et. al.)</i>] (pp. 273 - 317). Buzdağı Yayınevi, October, 2018, Ankara, TURKEY</p> <p>H.Aydın, F. Yarman Vural, “Doğrusal Faktör Modelleri” [Linear Factor Models]. In “<i>Derin Öğrenme</i>” [<i>Deep Learning (Goodfellow et. al.)</i>] (pp. 493 - 504). Buzdağı Yayınevi, October, 2018, Ankara, TURKEY</p>	
Teaching Assistanship	<p><b>CENG111 - Intr. to Computer Engineering Concepts:</b> 2015-2021 Fall</p> <p><b>CENG240 - Prog. with Python for Engineers:</b> 2019-2020 Spring, 2020 Fall</p> <p><b>CENG242 - Programming Language Concepts:</b> 2016-2018, 2020-2021 Spring</p> <p><b>CENG315 - Algorithms:</b> 2021 Fall</p> <p><b>CENG462 - Artificial Intelligence:</b> 2019-2020 Fall</p> <p><b>CENG492 - Computer Engineering Design II:</b> 2015 Spring</p> <p><b>CENG567 - Design and Analysis of Algorithms:</b> 2015 Fall</p> <p><b>CENG580 - Multigent Systems:</b> 2019-2021 Spring</p>	
Languages	Turkish (native), English (advanced), Italian (beginner)	
Skills	Python, Haskell, C/C++, Java, Vim, Eclipse, Django, Flask	
References	<p>Prof. Dr. Faruk Polat Department of Computer Engineering Middle East Technical University polat@ceng.metu.edu.tr,+90 (312) 210-5543</p> <p>Prof. Dr. Fatoş Yarman Vural Department of Computer Engineering Middle East Technical University vural@ceng.metu.edu.tr,+90 (312) 210-5595</p>	<p>Prof. Dr. Göktürk Üçoluk Department of Computer Engineering Middle East Technical University ucoluk@ceng.metu.edu.tr,+90 (312) 210-5584</p> <p>Assoc. Prof. Dr. Sinan Kalkan Department of Computer Engineering Middle East Technical University skalkan@ceng.metu.edu.tr,+90 (312) 210-5547</p>