

Hüseyin Aydın

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Department of Computer Engineering
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Education

Ph.D., Computer Engineering,
Middle East Technical University, 2017 - 2022
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

Utrecht University
Post-Doctoral Researcher, Aug, 2023 - Present
Supervisor: Prof. Dr. Pınar Yolum

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

Dissertations

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

“Using Frequencies of Transitions to Improve Reinforcement Learning with Hidden States”
Ph.D. Thesis, Middle East Technical University, Dep. of Computer Engineering, 2022

Research Projects

Solving Partially Observable Privacy Conflicts with Multi-Agent Reinforcement Learning
Supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK) through BİDEB 2219 International Postdoctoral Research Scholarship Program.
Aug, 2023 - Present

**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

H.Aydın, E. Çilden, F. Polat “Using chains of bottleneck transitions
to decompose and solve Reinforcement Learning tasks with hidden states,”
Future Generation Computer Systems, Vol. 133, pp.153-168 August, 2022

H.Aydın, E. Çilden, F. Polat, “Compact Frequency Memory
for Reinforcement Learning with Hidden States”
*In PRIMA 2019, 22th International Conference on Principle
and Practice of Multi-agent Systems*, October, 2019, Torino, ITALY

H.Aydın, E. Çilden, F. Polat, “Using Transitional Bottlenecks to
Improve Learning in Nearest Sequence Memory Algorithm”
*In ICTAI 2017, 29th International Conference on Tools
with Artificial Intelligence*, November, 2017, Boston, MA, USA

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”,
In eChallenges 2014 Conference, October, 2014, Belfast, IRELAND

Translations

H.Aydın, F. Yarman Vural, “Derin Modellerin Eğitiminde Eniyileme”
[Optimization for Training Deep Models]. In “*Derin Öğrenme*”
[*Deep Learning (Goodfellow et. al.)*] (pp. 273 - 317).
Buzdağı Yayınevi, October, 2018, Ankara, TURKEY

H.Aydın, F. Yarman Vural, “Doğrusal Faktör Modelleri”
[Linear Factor Models]. In “*Derin Öğrenme*”
[*Deep Learning (Goodfellow et. al.)*] (pp. 493 - 504).
Buzdağı Yayınevi, October, 2018, Ankara, TURKEY

Teaching

CENG240 - Prog. with Python for Engineers: 2022 Fall
CENG310 - Alg. & Data Struc. with Python: 2022 Spring

Teaching Assistanship

CENG111 - Intr. to Computer Engineering Concepts: 2015-2021 Fall
CENG223 - Discrete Comp. Struc.: 2022 Fall
CENG240 - Prog. with Python for Engineers: 2019-2020 Spring, 2020 Fall
CENG242 - Programming Language Concepts: 2016-2018, 2020-2021 Spring
CENG315 - Algorithms: 2021 Fall

CENG462 - Artificial Intelligence: 2019-2020 Fall
CENG492 - Computer Engineering Design II: 2015 Spring
CENG567 - Design and Analysis of Algorithms: 2015 Fall
CENG580 - Multigent Systems: 2019-2021 Spring

Languages

Turkish (native), English (advanced), Italian (beginner)

Skills

Python, Haskell, C/C++, Java, Vim, Eclipse, Django, Flask

References

Prof. Dr. Faruk Polat Department of Computer Engineering Middle East Technical University polat@ceng.metu.edu.tr,+90 (312) 210-5543	Prof. Dr. Göktürk Üçoluk Department of Computer Engineering Middle East Technical University ucoluk@ceng.metu.edu.tr,+90 (312) 210-5584
Prof. Dr. Fatoş Yarman Vural Department of Computer Engineering Middle East Technical University vural@ceng.metu.edu.tr,+90 (312) 210-5595	Assoc. Prof. Dr. Sinan Kalkan Department of Computer Engineering Middle East Technical University skalkan@ceng.metu.edu.tr,+90 (312) 210-5547