Hakime Öztürk

German Cancer Research Center (DKFZ)
Heidelberg, Germany
h.oeztuerk@dkfz-heidelberg.de
hkmztrk.github.io

 hkmztrk scholar

RESEARCH INTERESTS

Bioinformatics, machine learning, natural language processing

EDUCATION

Boğaziçi University, İstanbul, Turkey   2014 - 2019
Ph.D., Computer Engineering
Advisors: Arzucan Özgür and Elif Ozkirimli
Thesis: Text-based Machine Learning Methodologies for Modelling Drug-Target Interactions

Boğaziçi University, İstanbul, Turkey   2012-2014
M.S., Computer Engineering
Advisors: Arzucan Özgür and Elif Ozkirimli
Thesis: Analysing Drug Targets Using Ligand Similarity

Dokuz Eylül University, İzmir, Turkey   2008-2012
B.S., Computer Engineering
Advisor: Suleyman Sevinc
Thesis: Machine learning methods and distance measure in classification of proteins

PROFESSIONAL EXPERIENCE

German Cancer Research Center (DKFZ), Heidelberg, Germany
Computational Genomics and System Genetics, Dr. Oliver Stegle
Post-doctoral researcher   Dec 2019–today

Boğaziçi University, İstanbul, Turkey
Teaching Assistant, Department of Computer Engineering   Sept 2018–Nov 2019

Boğaziçi University, İstanbul, Turkey   Apr2016–Aug 2018
Data Analyst, Technology Transfer Office
- Automatized data collection and analysis for various research related tasks

VeriPark, Izmir, Turkey   Jun 2010 – Nov 2010
Junior Software Developer, Internet Banking Branch
- Development of the Internet Banking system for AKBANK using ASP.NET

TEACHING EXPERIENCE

Boğaziçi University, İstanbul, Turkey
Teaching Assistant, Department of Computer Engineering   Sept 2018–Nov 2019
- CMPE140, Introduction to Programming R   Fall 2018
- CMPE150, Introduction to Programming C   Fall 2018, Spring 2019, Fall 2019

Boğaziçi University, İstanbul, Turkey
Project Advisor, Department of Computer Engineering
- CMPE492, Senior Project   Spring 2017, Fall 2017, Fall 2018

Boğaziçi University, İstanbul, Turkey
Project Advisor, Department of Chemical Engineering

- CHE492, Senior Project   Fall 2015, Spring 2016, Fall 2016

Boğaziçi University, İstanbul, Turkey
Course Assistant, Department of Computer Engineering

- CMPE493, Introduction to Information Retrieval   Fall 2015

AWARDS
ISMB/ECCB Travel Fellowship Award *by ISCB* (2019)
TUBITAK 2224A International Travel Fellowship Award (2018)
ISMB Travel Fellowship Award *by Akamai* (2018)
ISMB/ECCB Travel Fellowship Award *by ISCB* (2017)
TUBITAK – BIDEB 2211 PhD Scholarship (2014 – 2019)
TUBITAK – BIDEB 2210 Master Scholarship (2012 – 2014)

PUBLICATIONS

[1] Öztürk, Hakime, Arzucan Özgür, Philippe Schwaller, Teodoro Laino and Elif Ozkirimli. Exploring Chemical Space using Natural Language Processing Methodologies for Drug Discovery. *Drug Discovery Today*, *accepted*

[2] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli. DeepDTA: Deep Drug-Target Binding Affinity Prediction. *Bioinformatics*, 34.17, i821–i829, 2018 doi: 10.1093/bioinformatics/bty593

[3] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli. A novel methodology on distributed representations of proteins using their interacting ligands. *Bioinformatics*, 34.13, i295–i303, 2018 doi: 10.1093/bioinformatics/bty287

[4] Cilek, Emine Ezel, Hakime Öztürk, and Bala Gur Dedeoglu. Construction of miRNA-miRNA networks revealing the complexity of miRNA-mediated mechanisms in trastuzumab treated breast cancer cell lines. *PloS one*, 12.10, e0185558, 2017 doi: 10.1371/journal.pone.0185558

[5] Soğancıoğlu, Gizem, Hakime Öztürk, and Arzucan Özgür. BIOSSES: a semantic sentence similarity estimation system for the biomedical domain. 33.14, i49-i58, 2017 *Bioinformatics*, doi: 10.1093/bioinformatics/btx238

[6] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli. A comparative study of SMILES-based compound similarity functions for drug-target interaction prediction. *BMC Bioinformatics*, 17.1, 1, 2016 doi: 10.1186/s12859-016-0977-x

[7] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli.. Classification of Beta-lactamases and penicillin binding proteins using ligand-centric network models. *PloS one*, 10.2, e0117874, 2015 doi: 10.1371/journal.pone.0117874

WORKSHOP PAPERS

[8] Yüksel, Atakan, Hakime Öztürk, Elif Ozkirimli, and Arzucan Özgür. CNN-based Chemical-Protein Interactions Classification. *Proceedings of the BioCreative VI Workshop*, Bethesda, MD, 2017

PREPRINTS

[9] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli. WideDTA: prediction of drug-target binding affinity *arXiv preprint*, 2019 arXiv:1902.04166

[10] Öztürk, Hakime, Arzucan Özgür and Elif Ozkirimli. A chemical language based approach for protein-ligand interaction prediction *arXiv preprint*, 2018 arXiv:1811.00761

CONFERENCES
27th Conference on Intelligent Systems for Molecular Biology and the 18th European Conference on Computational Biology (ISMB/ECCB), July 2019, Basel, Switzerland (Short Talk)

19th International Conference on Systems Biology (ICSB), October 2018, Lyon, France (Talk, presented by Elif Ozkirimli)

17th European Conference on Computational Biology (ECCB), September 2018, Athens, Greece (Talk)

26th Conference on Intelligent Systems for Molecular Biology (ISMB), July 2018, Chicago, USA (Talk)

5th International BAU Drug Design Congress: Novel Methods and Emerging Targets in Drug Discovery & Patented Drug Development, October 2017, İstanbul, Turkey (Talk)

25th Conference on Intelligent Systems for Molecular Biology and the 16th European Conference on Computational Biology (ISMB/ECCB), July 2017, Prague, Czech Republic (Poster)

International Symposium on Health Informatics and Bioinformatics (HIBIT), October 2015, Muğla, Turkey (Poster)

International Symposium on Health Informatics and Bioinformatics (HIBIT), September 2013, Ankara, Turkey (Poster)

SUMMER SCHOOLS	İsmail Ari Summer School: Artificial Intelligence in Bosphorous , July 2018, İstanbul, Turkey (Poster)

PROJECTS **Boğaziçi University Research Fund, BAP** 2016-2018
- Protein-Ligand Database Construction

INVITED TALKS Hakime Öztürk, "Text-based Machine Learning Methodologies for Modelling Drug-Target Interactions", Graduate Seminar, Boğaziçi University, İstanbul, Turkey (22 Oct, 2019)

Hakime Öztürk, "On the way to the Drug Discovery", Graduate Seminar, Galatasaray University, İstanbul, Turkey (24 Oct, 2017)

Hakime Öztürk, "Understanding Drug-Target Interactions", Graduate Seminar, Boğaziçi University, İstanbul, Turkey (9 May, 2017)

Hakime Öztürk, 'Introduction to network analysis: Cytoscape', "Bioinformatics and its applications in Genetics Workshop", Florence Nightengale Hospital, İstanbul, Turkey (21 November, 2015)

GUEST LECTURES Hakime Öztürk, "A Hitchhikers' Guide to Drug Discovery", BSB511 Fundamentals of Bioinformatics, Gebze Teknik University, Kocaeli, Turkey (25 April, 2019)

Hakime Öztürk, "Deep Learning Applications in Bioinformatics", CMPE597 Deep Learning, Bogazici University, İstanbul, Turkey (18 March, 2019)

Hakime Öztürk, "Drug Discovery", BSB511 Fundamentals of Bioinformatics, Gebze Teknik University, Kocaeli, Turkey (28 April, 2017)

VOLUNTARY EXPERIENCE **DjangoGirls**, Mentor
International workshop series that aim to introduce women to programming in Python and Django.
- Prisync, İstanbul, Turkey   26 October, 2019
- Bilgi University, İstanbul, Turkey   28 April, 2018
- KolektifHouse, İstanbul, Turkey   17 October, 2017
- Boğaziçi University, İstanbul, Turkey   26 February, 2017

- Lüleburgaz Municipality, Kırklareli, Turkey   21 December, 2016

CodeFest, Mentor
National event series to encourage high school students to learn programming.
- Üsküdar American High School, İstanbul, Turkey   8 March, 2017

PROFESSIONAL
ACTIVITIES
Reviewer for the Bioinformatics Journal, 2019
Reviewer for the BMC Bioinformatics Journal, 2019
Reviewer for the 27th Signal Processing and Communications Applications Conference, 2019
Reviewer for the Journal of Chemical Information and Modeling, 2018
Reviewer for the MWC-S18: MSc Workshop in Computing, 2018
Reviewer for the Clinical and Translational Medicine Journal, 2017

MEMBERSHIPS International Society for Computational Biology   2017 – today

CONTRIBUTED
SOFTWARE
PROJECTS
BIOSSES: Biomedical Semantic Similarity Estimation System
http://tabilab.cmpe.boun.edu.tr/BIOSSES/

PLITOOL: Protein-Ligand Interaction Tool
http://tabilab.cmpe.boun.edu.tr:8080/PLITOOL/

REFERENCES **Assoc. Prof. Arzucan Özgür**, advisor
Department of Computer Engineering, Boğaziçi University, İstanbul, Turkey
arzucan.ozgur@boun.edu.tr

Assoc. Prof. Elif Ozkirimli, co-advisor
Department of Chemical Engineering, Boğaziçi University, İstanbul, Turkey
elif.ozkirimli@boun.edu.tr

Prof. Aysin Baytan Ertuzun, vice rector
Department of Electrical and Electronics Engineering, Boğaziçi University, İstanbul, Turkey
ertuz@boun.edu.tr

Suzan Uskudarli, PhD
Department of Computer Engineering, Boğaziçi University, İstanbul, Turkey
suzan.uskudarli@boun.edu.tr