

Rıza Özçelik

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Employment

- 06.2021 – 12.2021: **Research Intern**, IBM Research, Zurich
 - Selected for the 2021 Great Minds internship at IBM Research - Zurich.
- 02.2019 – : **Research & Teaching Assistant**, Boğaziçi University, Istanbul.
 - Led and participated in research studies on **machine learning**, **computational drug discovery**, **Turkish natural language processing**, and **biological text mining**. The studies resulted in novel machine learning approaches for binding affinity prediction, first large-scale Turkish NLI data sets and representations, and an online search engine for COVID-19. The results are **published in top-tier conferences**;
 - Significantly contributed to an accepted **research grant proposal** on computational drug discovery to The Scientific and Technological Research Council of Turkey (TUBITAK; $\approx 10\%$ acceptance rate);
 - Instructed problem sessions with authentic material, coordinated undergraduate teaching assistants, designed and graded assignments/term projects, and organized engaging and fun events (meme contests, coding parties, and movie-themed assignments) in several courses. The students were delighted: **they donated 125 saplings** on behalf of the teaching staff and over 15% of them included the phrase **best TA ever** in their verbal feedback.
- 12.2018–6.2019: **Research Assistant**, TUBITAK, Istanbul.
 - Designed and developed web applications that enabled smooth traversal of Turkish WordNet (KeNet), and demonstrated an **open-source** Turkish NLP library – nlptoolkit, in a team;
 - **Published and presented** the web applications in Turkish NLP oriented conferences;
 - Contributed to documentation of **open-source** Turkish WordNet and nlptoolkit repositories.
- 7.2018–12.2018: **Data Scientist**, ING Turkey, Istanbul.
 - **Formulated autonomous branch cash management system development** as a prediction problem in a large and interdisciplinary environment;
 - Prepared and presented insightful data analysis reports and used the results to **implement time-series clustering models**.
- 9.2015–6.2018: **Undergraduate Teaching Assistant**, Boğaziçi University, Istanbul.
 - Designed and graded assignments **joyfully received by students**. Instructed additional sessions and established one-to-one communication channels to help students in Introduction to Programming, Data Structures & Algorithms and Machine Learning courses.

Publications

- **Özçelik, Rıza**, Hakime Öztürk, Arzucan Özgür, and Elif Ozkirimli. “ChemBoost: A chemical language based approach for the prediction of protein - ligand binding affinity.” Mol. Inf.. Accepted Author Manuscript. 2020.
- Budur, Emrah, **Rıza Özçelik**, Tunga Güngör, and Christopher Potts. “Data and Representation for Turkish Language Inference.” Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), Pages 8253-8267, 2020.
- Köksal, Abdullatif, Hilal Dönmez, **Rıza Özçelik**, Elif Ozkirimli, and Arzucan Özgür. “Vapur: A Search Engine to Find Related Protein–Compound Pairs in COVID-19 Literature.” Proceedings of the 1st Workshop on NLP for COVID-19 (Part 2) at EMNLP 2020.
- **Özçelik, Rıza**, Gökçe Uludogan, Selen Parlar, Özge Bakay, Özlem Ergelen and Olcay Taner Yıldız. “User Interface for Turkish Word Network KeNet.” *Signal Processing Applications*, 2019.
- Uludoğan, Gökçe, **Rıza Özçelik**, Selen Parlar, Gökhan Ercan and Olcay Taner Yıldız. “User Interfaces for Turkish Natural Language Processing.” *Signal Processing Applications*, 2019.

- o Ercan, Gökhan, Orçun Erkek, Onur Açıkgoz, **Rıza Özçelik**, Selen Parlar and Olcay Taner Yıldız. "Data Set Generation for Analysing of Turkish Semantic and Sentence Similarity." 2018 3rd International Conference on Computer Science and Engineering (UBMK), Pages 347-351, 2018.

Education

- o 2018–2021: **M.Sc.**, *Computer Engineering, Boğaziçi University, İstanbul*.
GPA: 3.94/4.00. Thesis: Drug-only Representations for Drug - Target Affinity Prediction
- o 2014–2018: **B.Sc.**, *Computer Engineering, Boğaziçi University, İstanbul*.
GPA: 3.57/4.00 (High Honor). Thesis: Disease Classification based on Genomic Data with Machine Learning

Selected Projects

- o **TabiDTA (2020)**: Creating a web application to predict drug-target affinities (DTA) with recent state-of-the-art models. TabiDTA allows benchmarking new DTA models with no additional training and estimating drug-target affinities in silico. (*In progress*)
- o **Named Entity Recognition (2020)**: Developing a named entity recognition and normalization model for biological text in order to improve Vapur, our recently developed search engine. (*In progress*)
- o **COVID-19 Drug Repurposing (2020)**: Co-advising a senior project to identify drugs for COVID-19 targets. The current results are presented as a poster at a reputable Turkish Bioinformatics conference, HIBIT.
- o **Disease Classification (2018)**: Developed machine learning approaches for disease classification based on genomic data, in a large and interdisciplinary team.
- o **Maximum Flow (2018)**: Implemented algorithmic and linear programming approaches for maximum problem and analyzed their behaviours with respect to graph size and density. The results are publicly available in GitHub.

Scholarships & Honors

- o Received The Scientific and Technological Research Council of Turkey (TUBITAK) **graduate student scholarship** at 2019, which was awarded top-performing and promising graduate students in Turkey;
- o Named as a **high honor graduate** of the Dept. of Computer Engineering, Boğaziçi University due to high performance in classes (2018);
- o Received **multiple undergraduate scholarships** for 5 years from Financial Aid Office of Boğaziçi University and Youth Ministry of Turkish Republic for high performance in the coursework (2013-2018).

Additional Academic Activities

- o **Writer** in Medium. (Username: rizaoczeli96).
- o Co-reviewer for **PLOS One** (2020) and **ISMB2021**.
- o Reviewer in Signal Processing Applications (**SIU**), **2019 & 2020**; Recent Advances in Natural Language Processing (**RANLP**), **2019**; **BioNLP-OST 2019**, (EMNLP-IJCNLP).

References

- o Arzucan Özgür
Faculty Member in the Dept. of Computer Engineering, Boğaziçi University, İstanbul, Turkey
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- o Elif Ozkirimli
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- o Christopher Potts
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- o Ali Taylan Cemgil
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o Suzan Üsküdarlı

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