

# Rıza Özçelik

Research Assistant, Boğaziçi University

Istanbul, Turkey

+90 (534) 466 8868

✉ riza.ozcelik@boun.edu.tr

🌐 <https://www.cmpe.boun.edu.tr/~riza.ozcelik>

## Employment

- 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** to The Scientific and Technological Research Council of Turkey (TUBITAK;  $\approx 10\%$  acceptance rate);
  - Instructed problem sessions with authentic material, coordinated undergraduate teaching assistants, and designed and graded assignments/term projects in **Data Structures & Algorithms**, **Machine Learning**, **Computer Organization**, **Database Systems**, and **Information Retrieval** courses. Received delightful feedback from the students.
- 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.” *arXiv:1811.00761v2*, 2020. (*Under Revision*)
- Budur, Emrah, **Rıza Özçelik**, Tunga Güngör, and Christopher Potts. “Data and Representation for Turkish Language Inference.” *arXiv:2004.14963*, 2020. (*Accepted to EMNLP 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.” *arXiv:2009.02526*, 2020. (*Accepted to EMNLP 2020 COVID-19 Workshop*)
- **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.
- Ercan, Gökhan, Orçun Erkek, Onur Açıkgöz, **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

- 2018–2021: **M.Sc.**, *Computer Engineering, Boğaziçi University, İstanbul.*  
GPA: 3.94/4.00. Thesis: Drug-only Representations for Drug - Target Affinity Prediction
- 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

- **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*)
- **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*)
- **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.
- **Disease Classification (2018)**: Developed machine learning approaches for disease classification based on genomic data, in a large and interdisciplinary team.
- **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

- 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;
- Named as a **high honor graduate** of the Dept. of Computer Engineering, Boğaziçi University due to high performance in classes (2018);
- 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

- **Writer** in Medium. (Username: rizaozcelik96).
- Co-reviewer for **PLOS One**, 2020.
- Reviewer in Signal Processing Applications (**SIU**), 2019 & 2020; Recent Advances in Natural Language Processing (**RANLP**), 2019; **BioNLP-OST 2019**, (EMNLP-IJCNLP).

## References

- Arzucan Özgür  
Faculty Member in the Dept. of Computer Engineering, Boğaziçi University, İstanbul, Turkey  
arzucan.ozgur@boun.edu.tr
- Elif Özkırımlı  
Head of Data Science and Advanced Analytics, Roche, Basel, Switzerland  
elif.ozkirimli@roche.com
- Christopher Potts  
Professor and Chair in the Dept. of Linguistics, Stanford University, Stanford, CA, USA  
cgpotts@stanford.edu
- Ali Taylan Cemgil  
Research Scientist at DeepMind, London, England  
Faculty Member in the Dept. of Computer Engineering, Boğaziçi University, İstanbul, Turkey  
taylan.cemgil@boun.edu.tr
- Suzan Üsküdarlı  
Instructor in the Dept. of Computer Engineering, Boğaziçi University, İstanbul, Turkey  
suzan.uskudarli@boun.edu.tr