

# Rıza Özçelik

Researcher, Boğaziçi University

Istanbul, Turkey  
☎ +90 (534) 466 8868  
✉ riza.ozcelik@boun.edu.tr  
📄 <https://rizaozcelik.github.io/>

## Education

- 03.2022– : **Ph.D.**, *Biomedical Engineering, Eindhoven University of Technology, Netherlands.*
- 2018–2021: **M.Sc.**, *Computer Engineering, Boğaziçi University, Turkey.*  
GPA: 3.94/4.00. Thesis: Biomolecular language processing for drug - target affinity prediction
- 2014–2018: **B.Sc.**, *Computer Engineering, Boğaziçi University, Turkey.*  
GPA: 3.57/4.00 (High Honor). Thesis: Disease Classification based on Genomic Data with Machine Learning

## Employment

- 06.2021 – 12.2021: **Research Intern, IBM Research, Zurich.**
  - Created a natural language-driven pipeline to create application flows in IBM's AppConnect. The pipeline relies on language semantics to match entities in user utterances with the concepts in a knowledge graph and has a type-ahead feature;
  - Created a link prediction model to represent otherwise hidden semantic relations in knowledge graph;
  - Developed programming interfaces to feed above-mentioned systems with live data;
  - Selected as one of 5 Great Minds Interns among 50 (after pre-selection) applicants.
- 02.2019 – 12.2021: **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**, Alperen Bağ, Berk Atıl, Arzucan Özgür, and Elif Özkırmı. "DebiasedDTA: Model Debiasing to Boost Drug-Target Affinity Prediction." *arXiv preprint arXiv:2107.05556*, 2021.
- **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.
- 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.

## Talks & Presentations

- Gave two talks (15 mins each) on ChemBoost and DebiasedDTA at ISMB 2021. Also presented the works as poster;
- Presented DebiasedDTA as a poster at UKQSAR September 2021 meeting;
- Presented ChemBoost as a talk (15 mins) and poster in HIBIT 2020;
- Co-presented ( 30 mins) our work on Turkish Natural Language Inference as an invited talk at Kodluyoruz event (2020).

## Scholarships & Honors

- My mentees received Ismail Arı Best Undergraduate Thesis Award for their contributions to DebiasedDTA;
- 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

- Accepted to ACL mentorship program, 2021;
- Reviewer for Computational and Structural Biotechnology Journal (2021);
- **Writer** in Medium. (Username: rizaoczcelik);
- Co-reviewer for **PLOS One** (2020) and **ISMB2021**;
- Reviewer in Signal Processing Applications (**SIU**), **2019 & 2020**; Recent Advances in Natural Language Processing (**RANLP**), **2019**; **BioNLP-OST 2019**, (EMNLP-IJCNLP).

## References

Available upon request.