İREM BEGÜM GÜNDÜZ

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Education

Starting from October 2021	***Saarland University, Saarland Informatics Campus, Saarbrücken*** Master of Science, Bioinformatics (English)
2017-2021	***Marmara University, Faculty of Engineering, Istanbul*** Bachelor of Engineering, Bioengineering (English) ***Bachelor Thesis :*** "Discovery of New Drugs for the Inhibition of Type IV Pili Mechanisms in *N. Meningitidis* Computationally" ***Academic Supervisor:*** Assoc. Prof. Dr. Pemra ÖZBEK SARICA ***Scholarship:*** TUBITAK 1001 Scholarship
2019 - 2020	***Marmara University, Faculty of Engineering, Istanbul*** Minor , Computer Engineering (English)

Work & Research Experience

July - Present ***Bioinformatics Intern***
Max Delbrück Center for Molecular Medicine,
Berlin Institute of Medical System Biology (BIMSB),
Bioinformatics and Omics Data Science Group
Supervisor : Dr. Altuna AKALİN

- I have been working on the development and improvement of the new R package, deconvR. I am also part of the organization team of this year's CompGen event. I wrote internal machine learning benchmarks for the capstone project. I trained models to predict the drug response using multi-omics/panel-seq data.

May - Present ***Project Participant***
Bioinformatics Research Network
Supervisor : Dr. Alexander J.R. BISHOP

- I have been working remotely on R-loops across the CCLE project funded by Merck. This study aims to build a systems biology understanding of R-loops in normal physiology and cancer disease. I am also working on a side project to develop a predictive model for the clinic by analyzing the relationship between R-loops levels and patient outcomes.

March - August 2021 ***TUBITAK 1001 Project Researcher***
Marmara University, Department of Bioengineering
Supervisors: Prof. Dr. Berna SARIYAR AKBULUT
Assoc. Prof. Dr. Pemra ÖZBEK SARICA

- I have been working on "Inhibition and Characterization of Type IV Pili Mechanism" project funded by the Scientific and Technological Research Council of Turkey (TUBITAK). This study aims to understand the working mechanism behind the Type IV Pili and, to discover novel drugs for its inhibition.

August - October	*Summer Intern*
2020	VEM Pharmaceuticals , Quality Control Laboratory

- I have performed various quality tests on drugs ready for sale using advanced lab equipment and devices.

June – September	*Volunteer Neuroscience Intern*
2019	Istanbul University Aziz Sancar Institute of Experimental Medicine Department of Neuroscience
	Supervisor : Assoc. Prof. Dr. Nurcan ORHAN

- I have been worked in experiments using various techniques such as DNA isolation, Western Blot, Agarose Gel Electrophoresis, and ELISA.

2019 – 2021	*Student Assistant*
	Marmara University, Department of Bioengineering, Computational Biology and Bioinformatics Laboratory
	Supervisor : Assoc. Prof. Dr. Pemra ÖZBEK SARICA

- I worked on drug discovery projects where I took tasks such as creating drug-like compound libraries, performing virtual screening, and protein structure and function discovery.

Leadership & Voluntary Activities

2018 – 2021	*Team Member*
	IEEE Marmara University Engineering in Medicine And Biology (IEEE EMBS)

- We have organized biotechnology and biomechanics conferences by bringing together expert scientists to talk about current topics on biotechnology.

2017 – 2020	*Article Writer*
	Marmara University Faculty of Engineering Journal (MUFEM)

- I wrote bioengineering related articles and news in MUFEM 2018 and MUFEM 2019 editions.

2017 – 2020	*Head of the Journal and Promotions Team*
	Marmara University Bioengineering Society (BIYOM)

- I led the journals and promotion team. We organized BIYOM's social media platforms, produced high-quality content and, promoted conferences.

Courses & Certificates

- Data Science R Basics
- Introduction to Tidyverse
- Intermediate R Programming
- Machine Learning with Caret
- Python for Genomics
- Python Data Structures
- Introduction to Statistics with R
- Unsupervised Learning
- Linux Command Line: Shell Scripting

Skills & Interests

- Machine learning models
- Can analyze, design and implement biological and chemical processes
- Familiar with advanced lab methods and equipments
- R package development
- Programming with R, Python, and also familiar with other programming languages such as Java, C, MATLAB.
- Computer- aided drug discovery
- Genomic data mining and analysis