



# İREM BEGÜM GÜNDÜZ

## Contact Details:

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## Education

<b>2021-Present</b>	<b>Saarland University, Faculty of Mathematics and Informatics</b> Doctor of Philosophy – PhD, Computer Science <b>Academic Supervisor:</b> Prof. Dr. Fabian MULLER
<b>2017-2021</b>	<b>Marmara University, Faculty of Engineering</b> Bachelor of Engineering, - BEng, Bioengineering (English) <b>Bachelor Thesis :</b> “Discovery of New Drugs for the Inhibition of Type IV Pili Mechanisms in <i>N. Meningitidis</i> Computationally” <b>Academic Supervisor:</b> Assoc. Prof. Dr. Pemra ÖZBEK SARICA <b>Scholarship:</b> TUBITAK 1001 Scholarship

## Work & Research Experience

<b>January - Present</b>	<b>Student Assistant</b> Saarland University, Saarland Informatics Campus Integrative Cellular Biology and Bioinformatics <b>Supervisor :</b> Prof. Dr. Fabian MULLER
<b>July 2021</b> - <b>January 2022</b>	<b>Bioinformatics Intern</b> Max Delbrück Center for Molecular Medicine, Berlin Institute of Medical System Biology (BIMSB), Bioinformatics and Omics Data Science Group <b>Supervisor :</b> Dr. Altuna AKALIN
<b>April - October 2021</b>	<b>Project Participant</b> Bioinformatics Research Network <b>Supervisor :</b> Dr. Alexander J.R. BISHOP
<b>October 2020</b> - <b>August 2021</b>	<b>TUBITAK 1001 Project Researcher</b> Marmara University, Department of Bioengineering <b>Supervisors:</b> Prof. Dr. Berna SARIYAR AKBULUT, Assoc. Prof. Dr. Pemra ÖZBEK SARICA
<b>August - October 2020</b>	<b>Summer Intern</b> VEM Pharmaceuticals
<b>June – August 2019</b>	<b>Neuroscience Intern</b> Istanbul University Aziz Sancar Institute of Experimental Medicine Department of Neuroscience <b>Supervisor :</b> Assoc. Prof. Dr. Nurcan ORHAN

2019 – 2021

**Student Assistant**

Marmara University, Department of Bioengineering,  
Computational Biology and Bioinformatics Laboratory

**Supervisor :** Assoc. Prof. Dr. Pemra ÖZBEK SARICA

## Voluntary Activities

2021 - Present

**Member**

Bioinformatics Research Network

2018 – 2021

**Organization Team Member**

IEEE Marmara University Engineering in Medicine And  
Biology (IEEE EMBS)

2017 – 2020

**Article Writer**

Marmara University Faculty of Engineering Journal (MUFEM)

2017 – 2020

**Head of the Journal and Promotions Team**

Marmara University Bioengineering Society (BIYOM)

## 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

## Projects

- Discovery of New Drugs for the Inhibition of Type IV Pili Mechanisms in *N. Meningitidis*  
**Supervisors:** Prof. Dr. Berna SARIYAR AKBULUT , Assoc. Prof. Dr. Pemra ÖZBEK SARICA
- R-loops Levels and Clinical Associations for Ewing Sarcoma  
(Ongoing)  
**Supervisors:** Assoc. Prof. Dr. Alexander J.R. BISHOP, Dr. Daniel MONTEMAYOR
- The potential of Multi-Omics and the Limitations of Panel Sequencing for Clinical Variable Prediction in Cancer  
(Manuscript in preparation)  
**Supervisors:** Dr. Altuna AKALIN
- deconvR: Simulation and Deconvolution of Omic Profiles  
(R Package is available in the Bioconductor Platform)  
**Supervisor:** Dr. Altuna AKALIN

## Skills & Interests

- Programming mainly with R, Python, and also with other languages such as Java, C, MATLAB.
- Computer - aided drug discovery
- Genomic data mining and analysis
- Machine learning algorithms
- R package development
- Development of computational methods for analyzing genomic data