

Beyza Canakcimaksutoglu

Work permit: Turkish | **Date of birth:** 01/01/1999 | **Place of birth:** Kayseri, Türkiye | **Nationality:** Turkish |
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EDUCATION AND TRAINING

13/09/2022 – 22/05/2025 Kayseri, Türkiye
BIOENGINEERING MASTER STUDENT Abdullah Gul University

- Focused on head and neck cancers, esophageal cancer, stomach cancer, colon cancers, colorectal cancers, and their microbiota
- Analyzed relative microbiome abundance datasets to identify cancer-specific microbial signatures using the microBiomeGSM ML model and traditional feature selection approaches (XGB, SKB, IG, RF, LogitBoost, AdaBoost, KNN, and SVM, etc.)
- Developed data pipelines for preprocessing in Python and the KNIME platform
- Conducted Jaccard similarity to compare microbial strain patterns across cancer types in R.
- Data analysis and publication-quality visualizations in Python, R, Excel, and the KNIME platform
- Documented findings for scientific reporting and presentation.

Website <https://w3.agu.edu.tr/> | **Field of study** Bioinformatics, Computational Biology |

Thesis Identification of taxonomic biomarkers in the microbiota of Gastrointestinal cancers using machine learning models on metagenomics data

14/09/2024 – 07/12/2024 Barcelona, Spain
COMPUTATINAL BIOLOGY INTERN Barcelona Super Computing Center

- Worked with FoldX, ESM2, ProteinMPNN, PyMOL, and ChimeraX for protein modeling and mutation analysis. Compared these models and found strong mutations in SARS-CoV-2.
- Data analysis with Python, R, Basic bash scripting, UNIX
- Hands-on experience using Linux on HPC clusters (MareNostrum 5): job submission of models, environment modules, and basic scripting
- Found 11 meaningful mutations and the Project presentation

Field of study Computational Biology, Structural Biology

12/05/2025 – 16/05/2025
MICROBIOME ANALYSIS Galaxy Training Academy

- Building an amplicon sequence variant table from 16S data using DADA2,
- Assembly of metagenomic sequencing data,
- Binning of metagenomic sequencing data,
- Taxonomic profiling and visualization of metagenomic data (Kraken2, MetaPhlAn, Krona, Phinch, Pavian),
- Calculating alpha and beta diversity from microbiome taxonomic data,
- Pathogen Detection from (direct Nanopore) sequencing data using Galaxy

12/05/2025 – 16/05/2025
INTRODUCTION AND SINGLE CELL ANALYSIS Galaxy Training Academy

- An introduction to scRNA-seq data analysis,
- Single-cell Formats and Resources,
- Generating a single-cell matrix using Alevin,
- Pre-processing of 10X Single-Cell RNA,
- Clustering 3K PBMCs with Scanpy,
- Pseudobulk Analysis with Decoupler and EdgeR,
- Clustering 3K PBMCs with Seurat

Field of study Bioinformatics

06/01/2025 – 22/04/2025 Türkiye

DATA SCIENTIST BOOTCAMP Miuul

- Machine Learning,
- CRM Analytics,
- Recommendation Systems,
- Feature Engineering,
- Measurement Problems,
- Python for Data Science,
- Querying MS SQL

Microbiome Analysis from Human Metagenomic Data and Disease Prediction Final Project -- Streamlit webapp + GitHub repository

- Conducted comprehensive microbiome data analysis using human metagenomic data (OTU tables, taxonomic profiles, metadata).
- Preprocessed and normalized relative abundance data, managed missing values, and conducted exploratory analysis.
- Visualizations such as bar plots, heatmaps, and diversity plots to explore taxonomic compositions and sample clustering.
- Statistical tests to compare microbial communities across groups, including hypothesis testing, and get the most significant microorganism for each disease.
- Machine Learning Applications- Creating workflows for classifying samples or predicting outcomes based on microbiome profiles

Website <https://miuul.com/>

08/02/2025 – 09/02/2025

DIFFERENTIAL GENE EXPRESSION ANALYSIS WITH R- TRANSCRIPTOMICS TRAINING ERES Biotechnology

- Perform Functional Enrichment Analyses: GO (Gene Ontology) and KEGG (Kyoto Encyclopedia of Genes and Genomes) pathway analysis
- Analyzing and interpreting gene expression differences using DESeq2,
- Volcano plot, Heatmap, MA plot

09/2017 – 06/2022 Kayseri, Türkiye

MOLECULAR BIOLOGY AND GENETICS Abdullah Gul University

Website <https://w3.agu.edu.tr/>

● PUBLICATIONS

2025

Prediction of colorectal cancer based on taxonomic levels of microorganisms and discovery of taxonomic biomarkers using the Grouping-Scoring-Modeling (G-S-M) approach.

B. Bakir-Gungor, M. Temiz, B. Canakcimaksutoglu, and M. Yousef, "Prediction of colorectal cancer based on taxonomic levels of microorganisms and discovery of taxonomic biomarkers using the (G-S-M) approach," Comput. Biol. Med., vol. 187, p. 109813,

Authors: Burcu Bakir-Gungor, Mustafa Temiz, Beyza Canakcimaksutoglu, Malik Yousef | **Journal Name:** Computers in Biology and Medicine | **Volume, Issue and Pages:** Volume 187, March 2025, 109813 | **Publisher:** ScienceDirect

● PROJECTS

09/02/2020 – 18/09/2020

TEKNOFEST 2020 Biotechnology Inovasion Competition

- Joined the international biotechnology innovation competition TEKNOFEST 2020
- Creating a COVID-19 vaccine project against the pandemic
- Presenting the idea to the jury members in the final
- Led a COVID-19 vaccine project, demonstrating innovative thinking, technical expertise, and strong leadership skills.
- Placed **1st** in the preliminary round
- Placed **8th** in the Final

Link https://drive.google.com/file/d/1AF-a0l6QXvccLVTdxAn3Rt5waECpJWvi/view?usp=drive_link

TEKNOFEST 2021 Biotechnology Inovasion Competition

- Joined the international biotechnology innovation competition TEKNOFEST 2021
- Creating a protein-based vaccine project against more than one disease which have the potential to create a pandemic in the world
- Presenting the idea to the jury members in the final
- Placed **15th** in the Final
- Led a team, developed a successful vaccine project, and conducted bioinformatics analysis

Link https://drive.google.com/file/d/1T_C_bXkY048Dcl0w4d8exRG8rS30eDa/view?usp=drive_link

HONOURS AND AWARDS

09/01/2024

TUBITAK 2210-C Turkey Priority Areas Master's Scholarship – TUBITAK

The master's thesis was deemed worthy of a scholarship.

15/10/2021

STAR-Intern Researcher Scholarship – TUBITAK

Worked in the STAR project, which the instructor conducts, and the scholarship belongs to this project

SKILLS

think creatively | Microsoft Office | prepare presentation material | keep an open mind | develop creative ideas | coordinate communication within a team | WordPress and Wix | attend to detail | Python | Machine Learning | R | Exploratory Data Analysis | BioPython | High Performance Computing | Conda | Github | Microbiome Analysis | Metagenomics | Microbiome

VOLUNTEERING

22/04/2025 – CURRENT Kayseri Gevher Nesibe Special Education Application School

Hayatın Renkleri

Learning how I can treat children with severe intellectual disabilities who have autism or Down syndrome

18/03/2023 – 19/03/2023 Abdullah Gul University

Facial painting for children affected by the earthquake

Painting the faces of children affected by the earthquake in Kahramanmaraş

LANGUAGE SKILLS

Mother tongue(s): **TURKISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B1	B1	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user