

# Mekan Myradov

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## EDUCATION

- **Sabanci University** Istanbul, Turkey  
*Sep 2022 - Jul 2026 (Expected)*
  - *MSc in Data Science; GPA: 3.54*  
*Courses: Machine Learning, Pattern Recognition, Deep Learning, Network Science, Big Data Processing*  
*Statistical Modelling, Statistical Inference, Engineering Optimization.*
- **Kirkclareli University** Kirkclareli, Turkey  
*Sep 2018 - Jun 2022*
  - *BS in Software Engineering; GPA: 3.71*

## PUBLICATIONS

- **SCITUNA: Single-Cell data integration tool using network alignment**, BMC Bioinformatics, 2025.  
Aissa Houdjedj, Yacine Marouf, **Mekan Myradov**, Onur Dogan, Burak Onur Erten, Oznur Tastan, Cesim Erten and Hilal Kazan  
[PDF] / [Code]

## ACADEMIC PROJECTS

- **Single-Cell Multiome Analysis (Dec '25)**  
A comprehensive deep learning pipeline for analyzing single-cell multiome data, benchmarking multiple state-of-the-art integration methods including CCA, Joint VAE, MultiVI, MOFA+ and Seurat (Weighted Nearest Neighbors).  
[PDF] / [Code]
- **A Toolbox for ANOVA and Linear Regression (May '25)**  
*Comprehensive statistical analysis toolkit that implements*
  - One-Way ANOVA (group comparison, contrast analysis)
  - Two-Way ANOVA (two-factor analysis with interaction effects)
  - Multiple Linear Regression (parameter estimation, hypothesis testing, prediction intervals)
  - Multiple comparison corrections (Bonferroni, Sidak, Scheffe, Tukey) with individual and simultaneous confidence intervals[PDF] / [Code]
- **Synthetic Data Generation with Gaussian Mixture Models (Sep '23)**  
Implemented a synthetic data generation algorithm in Python using Gaussian Mixture Models  
[PDF] / [Code]

## ACADEMIC ACTIVITIES

- **International Conference on Research in Computational Molecular Biology** Istanbul, Turkey  
*Apr 16, 2023 - Apr 19, 2023*
  - *Participant*
- **Workshop on the analysis and integration of single-cell RNA-seq datasets** Antalya, Turkey  
*Mar 23, 2023*
  - *Participant*

## EXPERIENCE

- **Sabanci University** Istanbul, Turkey  
*Sep 2022 - Current*
  - *Teaching Assistant*
    - **Courses:** Software Engineering, Advanced Programming
    - Held weekly recitation session and office hours.
    - Graded programming homework and examinations.
    - Helped students so they can follow software development lifecycle best practices.
- **Kirkclareli University** Kirkclareli, Turkey  
*Nov 2021 - Jun 2022*
  - *Research Intern - Asst. Prof. Edip Serdar GÜNER*
    - Participated in the project that was about the creation and analysis of a Turkish drug reviews dataset from social media.
    - Created a dataset by compiling Turkish drug reviews from social media.
    - Analyzed dataset using text mining methods (Zemberek-NLP and VNLP).
    - Sentiment Analysis with Hugging Face models (Turkish BERT etc).
- **Cognitiwe AI** Istanbul, Turkey  
*May 2021 - Sep 2021*
  - *Research Intern*
    - Dealt with feature detectors for images

- Worked with SIFT (Scale Invariant Feature Transform) method
- Worked with SURF (Speeded-Up Robust Features) method
- Worked with ORB (Oriented FAST and Rotated BRIEF) method

- **Mimix AI**

*Research Intern*

Istanbul, Turkey

Dec 2020 - Apr 2021

- Worked with face swap methods especially DeepFaceLab components
- Worked with CNN-based face detection methods (S3FD)
- Worked with CNN-based face alignment methods (2D-FAN)
- Worked with CNN-based face segmentation methods (TernausNet)
- Used autoencoders to learn mappings between faces

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## CERTIFICATIONS AND COURSES

- Machine Learning Specialization (Coursera – Andrew Ng).
- Deep Learning Specialization (Coursera – Andrew Ng).

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## HONORS AND AWARDS

- TUBITAK Research Scholarship, 2022-2025.
- Sabancı University Tuition Waiver Scholarship, 2022-2026.
- Kirkklareli University – High Honor Graduate

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## SKILLS SUMMARY

- **Software Development Lifecycle:** Agile Methodologies (Scrum), Coding Standards, Code Reviews, Resource Management, Development Processes, Deployment, Testing and Operations
- **Programming Languages:** Python, R, C, C++, Java, SQL, Unix/Shell Scripting
- **Libraries:** NLTK, OpenCV, NumPy, SciPy, Pandas, Matplotlib, Seaborn
- **Machine Learning & Deep Learning:** Spark MLlib, Scikit-learn, TensorFlow, PyTorch, CNNs, RNNs, Transformers, Autoencoders, Gaussian Mixture Models
- **Big Data & Cloud Technologies:** AWS, Hadoop, Apache Spark, Snowflake
- **Development Tools & Platforms:** GIT, Jira, Linux, Unix
- **Text Processing & NLP Libraries:** Zemberek, VNLP, Hugging Face Transformers
- **Domain Expertise:**
  - Computer Vision (SIFT, SURF, ORB, Face Detection/Alignment/Segmentation)
  - Natural Language Processing (BERT, Sentiment Analysis, Text Mining)
  - Computational Biology & Bioinformatics (Single-cell RNA-seq analysis)

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## SERVICE

- **Military Service:** Feb 2024 - Feb 2025
- **Reviewing:** Bioinformatics