Beyza KAYA

Address: Çekmeköy İstanbul/TURKEY **Mobile:** +90 532 175 55 76
E-mail: beyza.kaya@ozu.edu.tr

OBJECTIVE

To pursue doctoral research in bioinformatics, focusing on the application of artificial intelligence and computational biology to genomic data analysis, while developing advanced expertise in modeling complex biological systems.

EDUCATION

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2024 - Present)
Graduate School of Engineering and Science - Master's in Artificial Intelligence
Honors: 100**%** Scholarship

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2019 - 2024)
Faculty of Engineering - Department of Industrial Engineering – Completed in 3.5 years
Department of Computer Science Engineering (Double Major)
Honors: 50% Performance Scholarship **Cumulative GPA**: 3.38/4.00

PAMUKKALE EGITIM VAKFI HIGH SCHOOL - Denizli, TURKEY (2015 - 2019)

EXPERIENCE

DELTAV SPACE TECHNOLOGIES - Istanbul, TURKEY (07/2023 - 08/2023)
Position: Intern, Project Management
- Analysed risk accordance with standards
- Planned project with detailed excel project for automation
- Predicted GPS latitude-longitude over IMU/ GPS data via Tensorflow and Keras

UP SCHOOL - Istanbul, TURKEY (11/2022 - 12/2022)
Position: Intern, Social Media Organizer
- Shared daily posts, videos and announcements on social media
- This internship was part of the Young Guru Academy's initiatives

SNI TECHNOLOGY - Istanbul, TURKEY (06/2022 - 08/2022)
Position: Intern, Java Developer
- Observed reflections of security systems on e-archive billing applications with Spring Framework
- Used the Spring Framework for email verification and wrote register services

POILABS - Istanbul, TURKEY (6/2022 - 10/2022)
Position: Intern, Backend Developer
- Wrote newly defined JavaScript features for hardware to use in shopping centers
- Participated project meetings on the integration of the company device for new airport

PROJECTS & RESEARCH STUDIES

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2025-Present)
Position: Research Assistant
Research Project: "DeepAllergen: Deep Learning–Based Identification of Allergenic Proteins" (In Progress)
- Developing DeepAllergen, a deep learning framework for allergen identification, targeting both homologous and non-homologous protein sequences.
- Proposed a modified U-Net–inspired architecture combined with Multi-Head Self-Attention to capture both local sequence motifs and long-range dependencies in protein sequences.
- Conducted ablation studies to evaluate the contribution of architectural components, demonstrating the importance of U-Net encoder–decoder pathways for performance.

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2024-Present)
Position: Research Assistant
Research Paper: "Temporal Expression Prediction by Integrating Genome Dynamics via Spatio-temporal GNNs" (Under Review)
Authors: Beyza Kaya, Emre Sefer
- Proposed STEPmr and STEPmi, two spatio-temporal graph neural network models to predict mRNA and miRNA expression dynamics over time.
- Integrated Hi-C–derived spatial gene interaction features with temporal expression profiles to model gene regulatory dependencies.
- Analyzed gene ontology and biological pathway enrichments to interpret model predictions, identifying gene groups related to signaling, transcriptional regulation, and structural organization as key contributors to model behavior.
- Source code available at: https://github.com/seferlab/temporalgene

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2024-Present)
Position: Research Assistant
Research Paper: "GAT-HiC Efficient Reconstruction of 3D Chromosome Structure via Graph Attention Neural Networks" (Accepted by IEEE Transactions on Computational Biology and Bioinformatics)

VOLUNTARY ACTIVITIES

Authors: Beyza Kaya, Emre Sefer

- Developed GAT-HiC, a novel graph neural network model combining Node2vec and graph attention mechanisms to predict 3D chromsome structures.
- Designed specialized loss functions to enhance generalization tasks across diverse species and datasets.
- Validated model performance across three Hi-C interaction datasets, demonstrating generalizability compared to existing methods.
- Source code available at: https://github.com/beyzoskaya/GAT-HiC

ÖZYEĞİN UNIVERSITY - Istanbul, TURKEY (2023 - 2024)

Position: Senior Design Project Computer Science

- Deploy Generative models for create NFT images & Create big data for deploy diffusion models
- Integrate rarity score to Diffusion model to create rare NFT images

ADEL KALEMCILIK - Istanbul, TURKEY (2022)

Position: Senior Design Project Industrial Engineering

- Detected bottleneck for detailed production line with Arena Simulation Model

YOUNG GURU ACADEMY - Istanbul, TURKEY (2019 - 2021)

Position: Project Leader

- Led “Develop Business Model" sessions for 5th & 6th grade students to support their development
- Participated in camps on leadership, teamwork, communication, problem-solving, decision-making.

Position: Science Activities Volunteer

- Organized sessions with elementary school students in village schools with no access to education.
- Utilized "Twin" science kits and conducted experiments in groups.

Position: Summit Volunteer

- Dealt with the speakers and attendees and took part in various preparations during the summit.
- Produced creative content and created videos for YGA’s Instagram and TikTok accounts.

SKILLS & CERTIFICATES

COMPUTER SKILLS

- MS Office (Word, Excel, Power Point)
- Java (Intermediate)
- C++ (Intermediate)/C (Intermediate)
- Spring Framework (Intermediate)
- Tensorflow (Intermediate)
- PyTorch (Intermediate)
- Python (Intermediate)

LANGUAGE SKILLS

- Written and oral fluency in English

CERTIFICATES

PyTorch for Deep Learning Bootcamp

EXTRACURRICULAR ACTIVITIES

- Member, Ozyegin University Google Developer Club (2020 - 2023)
- Member, Ozyeğin University SAS Club (2019 - 2021)
- Member, Ozyeğin University Business Club (2019 - 2021)
- Member, Ozyeğin University Operations Research Club (2019 - 2021)
- Member, Ozyeğin University Dance Club (2019 - 2020)
- Volleyball: Denizli Belediyespor Club Volleyball Team player (2013 - 2019)

PERSONAL INFORMATION

Birth Date: 06/06/2001

Driver’s License: B Class

REFERENCES

Available upon request