TOLGA OZGUN

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA   May 2026
Masters in Computational Biology, School of Computer Science | GPA: 3.85 / 4.0
Relevant Coursework: Graph Representation Learning, Algorithms and Advanced Data Structures, Automated Lab Methods

Bilkent University, Ankara, Turkey   Jun 2024
Bachelor of Science, Computer Engineering | GPA: 3.46 / 4.0 | Cum Laude
Relevant Coursework: Computer Vision, Machine Learning, Application Lifecycle Management, Algorithms, Data Structures

SKILLS

Python (PyTorch, Tensorflow, NumP-py, Matplotlib, Pandas), Java, C++, Docker, Typescript, Javascript, Git, SQL, design patterns, Spring, Maven, React Native, React, Linux, AI/ML, algorithms

EXPERIENCE

Teaching Assistant - Carnegie Mellon University, Pittsburgh, PA   Jan 2025 - May 2025
● Instructed 80+ students in Algorithms and Advanced Data Structures courses providing guidance, code reviews and feedback.
● Facilitated lab sessions and graded assignments while ensuring a comprehensive understanding of course materials.

Software Engineering Intern - HAVELSAN, Ankara, Turkey   Aug 2023 - Sep 2023
● Developed a **quantized** chatbot to answer internal questions from documents under 60 seconds without using GPU.
● Leveraged **ChromaDB** vector database, **LangChain** with **LLaMa** and **GPT-4** to enhance functionality.

Machine Learning Intern - Digital Transformation Office of Presidency of Turkey, Ankara   Jul 2023 - Jul 2023
● Developed **Generative Adversarial Networks (GAN)** using **Pix2pix** and **CycleGAN** with **Python** and **Tensorflow** to generate brain contrast MRI images from non-contrast MRI scans using Gazi Brains MRI dataset with over 80% accuracy.
● Trained **UNet segmentation models** to measure accuracy of generated contrast MRI images in a segmentation task.

Student Research Assistant - Bilkent University, Ankara, Turkey   Feb 2021 - Feb 2024
● Investigated interpretability and bias of **Convolutional Neural Networks (CNN)** across various gene co-expression networks with **Graph Theory** methodologies by utilizing scientific libraries such as **NumPy**, **Pandas**, **SciPy**, **Matplotlib** and **CUDA**.
● Analyzed gene maps to express gene expression and RNA velocity patterns in human and mouse brains with respect to different neurological diseases using **Python** with **NumPy**, **Pandas**, **ScVelo**, and **Matplotlib** libraries.

PROJECT EXPERIENCE

LinguistAI (Senior Project at Bilkent University)   Sep 2023 - Jun 2024
● Led development of a personalized language learning chatbot within an **Agile** team, designing and implementing scalable **RESTful API**s with **Java** and **Spring Boot** for complex data persistence (**JPA/Hibernate**), streamlining builds via **Maven**.
● Engineered CI/CD pipelines and microservices with **Github Actions**, **Docker**, and **Linux**, ensuring 99.99% uptime; used **Python**, **Django**, **LangChain**, model optimizations like quantization, and **JIRA** for project delivery, engaging 50+ active users.

Image Inpainting of Human Faces (Academic Project at Bilkent University)   Sep 2023 - Jan 2024
● Developed a Deep Convolutional Generative Adversarial Network (**DCGAN**) model for face reconstruction as a team of 5.
● Created an ensemble model by combining an **Encoder Network** using GAN inversion with over 90% accuracy.

ZooNet (Academic Project at Bilkent University)   Jan 2023 - Jun 2023
● Developed a **CNN** with a sliding window for bird classification using **Python** and **PyTorch** with an accuracy over 95%.

LEADERSHIP EXPERIENCE

Google Play Indie Games Group Turkey - *Lead*   Sep 2022 - Sep 2025
● Monitored 1200+ members and led over 10 technical workshops on **Google Cloud**,**Generative AI** and publishing games.

Google Developer Student Clubs Turkey - *Facilitator & Lead*   Sep 2022 - Jun 2024
● Mentored 120 leads and led 20+ technical workshops on Generative AI, Gemini, Android and Kotlin for 100+ participants.