Mert Gençtürk

Computer Science Graduate at Bilkent University

Email: gencturkmert1@gmail.com
Mobile: +90 535 577 1544

Education

- **Bilkent University** — Ankara, Turkey
  Master of Science in Computer Science — *2025 – Present*
- **Bilkent University** — Ankara, Turkey
  Bachelor of Science in Computer Science; CGPA: 3.7, High Honor Student — *2020 – 2025*
  - **Ranking**: 20th in Department, 59th in National University Exam among 2.5+ million students
  - **Scholarship**: Comprehensive + Full Scholarship
  - **Award**: Technical Service Award 2024 for contribution to department's internship system

Experience

- **Bilkent University - Cicek Lab** — Ankara, Turkey
  Graduate Research Assistant, Advisor: Dr. Ercüment Çiçek — *2025 - Present*
  - Developing deep learning models for **copy number variant (CNV)** and **structural variant (SV)** detection from whole exome sequencing data.
  - Working on a novel approach for CNV calling that outperforms existing methods. Paper in submission.
  - Research focus on applying **AI/ML techniques to genomics**, improving variant detection accuracy and clinical utility.
- **Getir** — Istanbul, Turkey
  Algorithm Engineer - Part-time — *March 2024 - August 2025*
  - Worked on scheduled delivery services, optimizing courier assignment and delivery estimations.
  - Implemented a new **Vehicle Routing Problem (VRP)** solver with dynamic clustering on **OR Tools**. Contributed to optimization problem modeling, studying mixed-integer and linear modeling paradigms.
  - Presented various algorithm talks, explaining complex deep learning based routing models and optimization algorithms to the whole algorithm tribe.
  - Designed a new ETA correction machine learning pipeline, improving existing model performance by **30%+**, and decreasing the ratio of early and late deliveries by **10%**.
  - Designed a graph network to predict future orders based on basket content and user information.
  - Worked with international teammates, writing production code and participating in technical refinement research.
  - Python, NodeJS, AWS S3, Redshift, Lambda, Kafka, MongoDB, Google OR Tools.
- **Bilkent University - Generative Deep Learning Research Lab** — Ankara, Turkey
  Undergraduate Research Assistant — *July 2024 - February 2025*
  - Worked on video style transfer with **temporal consistency** using **diffusion models** and **optical flow matching**. Implemented attention mechanisms to satisfy both style transfer and frame coherence requirements.
  - Project discontinued due to resource constraints and concurrent publication of similar work by other research groups.
- **Bilkent University - Applied Security and Privacy Lab** — Ankara, Turkey
  Undergraduate Research Assistant — *September 2023 - 2025*
  - Conducted research on **privacy-preserving federated learning**, focusing on secure data normalization techniques for healthcare applications.
  - Experimented with **6000+** federated network configurations to analyze effects of normalization under **non-iid** data distributions.
- **Monad Software and Consultancy** — Turkey
  Fullstack Engineer - Part-time — *June 2022 - March 2024*
  - Implemented **60+** new features and pages, addressed issues in hospital administration software, and developed a full-stack web-based mobile application.
  - Utilized Java, Springboot, Vaadin Framework, PL/SQL, and developed REST and SOAP web services.

- Developed a standalone **KIOSK system** for patient check-in, utilized by leading hospitals and **40+** medical centers in Turkey.
- Built a **remote appointment system** as a standalone project during the pandemic, integrated with the **National Health System**.

Papers

- **ExactCN: Predicting Exact Copy Numbers on Whole Exome Sequencing Data**: Deep learning method for exact copy number estimation from WES data, combining CNNs and transformers. Achieves state-of-the-art performance with **32%** MAE reduction. *In submission.* [bioRxiv]
- **Bridging Local and Federated Data Normalization in Federated Learning: A Privacy-Preserving Approach**: Privacy-preserving data normalization for federated learning using homomorphic encryption. Evaluates normalization techniques across heterogeneous FL scenarios for healthcare applications. *In submission.* [arXiv]

Projects

- **Heuristic Wise Query Selection for Model Stealing**: Developing algorithm to improve query-based model stealing attacks using disagreement and similarity scores with contrastive approach.
- **Internship Management System**: Developed and implemented an Internship Management System for Bilkent University, currently servicing over **500 users** since September 2023. Collaborated with peers using Java, Spring, MongoDB, Redis for the backend, and React for frontend. Utilized AWS services such as EC2, S3, and ElastiCache for deployment. Led requirement analysis, authored comprehensive reports with UML diagrams, and oversaw a new team conducting code reviews.
- **Variant-Net, Genomic Graph Representation Learning**: Implemented enhanced Deep Graph Infomax model on LLAMA 3-8B for gene variant and disease graph dataset (**300M nodes** on Neo4j). Improved LLM medical semantics and RAG on genomic data.

Skills

- **Areas**: Deep Learning, Machine Learning, Backend Development, Fullstack Development, Bioinformatics, Optimization
- **Technologies**: Python, PyTorch, Java, Springboot, Django, FastAPI, NodeJS, SQL, Docker, AWS, GCP

Awards

- **Technical Service Award**: Issued by Bilkent University, 2024
- **Career Days Award**: Issued by Dream Games at Career Workshop, 2025

Hobbies

- Tailoring, Crochet, Bartending