

Samet Tenekeci

NLP & Bioinformatics Researcher

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SUMMARY

I hold a PhD in Computer Engineering with a focus on natural language processing and bioinformatics. As a member of two research groups, I developed dual expertise in computational biology and software engineering, contributing to academic and industrial projects. My expertise spans Transformer models, graph neural networks, multimodal learning, complex networks, protein language models, and integrative omics analysis.

EDUCATION

PhD, Computer Engineering <i>Izmir Institute of Technology</i> GPA: 4.00 / 4.00 Thesis: "Modeling Viral Evolution with Natural Language Processing"	09/2019 – 06/2025
MSc, Computer Engineering <i>Dokuz Eylül University</i> GPA: 3.86 / 4.00 Thesis: "Discovering Disease-Causing Genes by Network Analysis" 🔗	09/2016 – 08/2019
BSc, Computer Engineering <i>Izmir University</i> GPA: 3.23 / 4.00 Graduated with honor degree.	09/2009 – 07/2014

EXPERIENCE

Research Assistant → Lecturer <i>Izmir Institute of Technology</i> <ul style="list-style-type: none">◦ Lecturing undergraduate and graduate courses since September 2025◦ Conducting research in Software Engineering & AI Research Group◦ Conducting research in Data Analytics Research Group◦ Assisted in teaching more than 10 computer science courses◦ Led administrative tasks within the department as the TA coordinator◦ Contributed to the organization of academic conferences and workshops	07/2018 – Present
Software Engineer <i>Airties Wireless Networks</i> <ul style="list-style-type: none">◦ Shipped client-specific features for access points◦ Resolved large-scale device overheating issues in production	02/2017 – 05/2018
Research Assistant <i>Izmir University</i> <ul style="list-style-type: none">◦ Assisted in teaching and grading core computer science courses◦ Conducted laboratory sessions for undergraduate courses◦ Contributed to administrative tasks within the department	11/2014 – 08/2016
Software Engineer <i>BroadAngle</i> <ul style="list-style-type: none">◦ Built UI/UX for a health and fitness app (DDP Yoga)	03/2013 – 11/2014

PUBLICATIONS

1. [Tenekeci S, Sezgin E, Tekir S. A contrastive learning framework for efficient viral escape prediction. *IEEE Transactions on Computational Biology and Bioinformatics* \(Preprint\). \[↗\]\(#\)](#)
2. [Tenekeci S, Ünlü H, Gül BA, Keleş D, Küçük M, Demirörs O. Automating software size measurement from code using language models. *Automated Software Engineering* \(Preprint\). \[↗\]\(#\)](#)
3. [Tenekeci S, Ünlü H. Peer review and assessment improves software engineering education: Insights from multiple survey studies. *ACM Transactions on Computing Education* \(Preprint\). \[↗\]\(#\)](#)
4. [Ünlü H, Tenekeci S, Kennouche DE, Demirörs O. Automating software size measurement with language models: Insights from industrial case studies. *Journal of Systems and Software*, 2025. \[↗\]\(#\)](#)
5. [Tenekeci S, Erciyes K. Distributed approximation algorithms for sorting unsigned genomes by reversals. *Journal of Global Optimization* \(Preprint\). \[↗\]\(#\)](#)
6. [Tenekeci S, Ünlü H, Keçeci B, İncir ME, Demirörs O. Automated software size measurement using multilingual domain-adapted language models. *Turkish Journal of Electrical Engineering and Computer Sciences* \(Preprint\). \[↗\]\(#\)](#)
7. [Tenekeci S, Tekir S. Identifying promoter and enhancer sequences by graph convolutional networks. *Computational Biology and Chemistry*, 2024. \[↗\]\(#\)](#)
8. [Ünlü H, Tenekeci S, Çiftçi C, Oral İB, Atalay T, Hacaloğlu T, Musaoğlu B, Demirörs O. Predicting software functional size using natural language processing: An exploratory case study. *50th Euromicro Conference on Software Engineering and Advanced Applications*, Paris, France, 2024. \[↗\]\(#\)](#)
9. [Tenekeci S, Ünlü H, Dikenelli E, Selçuk U, Kılınç Soylu G, Demirörs O. Predicting software size and effort from code using natural language processing. *33rd International Workshop on Software Measurement \(IWSM\) & 18th International Conference on Software Process and Product Measurement \(Mensura\)*, Montréal, Canada, 2024. \[↗\]\(#\)](#)
10. [Tekir S, Güzel A, Tenekeci S, Haman BU. Quote detection: A new task and dataset for NLP. *7th Joint SIGHUM Workshop on Computational Linguistics for Cultural Heritage, Social Sciences, Humanities and Literature*, Dubrovnik, Croatia, 2023. \[↗\]\(#\)](#)
11. [Sezerer E, Tenekeci S, Acar A, Baloglu B, Tekir S. Author reputation measurement on question and answer sites by the classification of author-generated content. *International Journal on Artificial Intelligence Tools*, 2021. \[↗\]\(#\)](#)
12. [Ünlü H, Tenekeci S, Yıldız A, Demirörs O. Event oriented vs object oriented analysis for microservice architecture: An exploratory case study. *47th Euromicro Conference on Software Engineering and Advanced Applications*, Palermo, Italy, 2021. \[↗\]\(#\)](#)
13. [Çiftçi O, Tenekeci S, Ülğentürk C. Artist recommendation based on association rule mining and community detection. *13th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, Valletta, Malta, 2021. \[↗\]\(#\)](#)
14. [Tenekeci S, Işık Z. Integrative biological network analysis to identify shared genes in metabolic disorders. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2020. \[↗\]\(#\)](#)

PROJECTS

DentAI: AI-based 3D modeling tool for dentistry practices

Proprietary

- Used graph convolutional networks for 3D dental model segmentation.
- Defined requirements and led software development and management activities.
- Coordinated a team of AI engineers and dentists.
- Techstack: Python, PyTorch, HTML, CSS, JS, Git, Blender, MeshLab

AI-Estimator: Automated size measurement for software projects [↗](#)

Proprietary

- Curated datasets, trained and deployed task-specific BERT models.
- Contributed to project proposal and conducted industrial case studies.
- Funded by the Scientific and Technological Research Council of Türkiye.
- Techstack: Python, PyTorch, Google Vertex AI, HTML, CSS, JS, Git, Docker

CoV-SNN: An efficient framework for viral escape analysis [🔗](#)

Open-Source

- Developed a task-specific transformer-based protein language model.
- Curated datasets, configured workstations, and deployed AI models.
- Achieved 97% accuracy and 125× speedup in escape prediction.
- Funded by the Council of Higher Education of Türkiye.
- Techstack: Python, PyTorch, Streamlit, HTML, CSS, JS, Git

GCN4EPI: Graph neural networks to identify gene-regulatory elements [🔗](#)

Open-Source

- Designed a multimodal model using graph convolutional neural networks.
- Integrated DNA sequence and Enhancer-Promoter Interaction data.
- Published in Computational Biology and Chemistry.
- Techstack: Python, PyTorch, TensorFlow, Bash, Git

FastSbR: Distributed approximation algorithms for sorting by reversals [🔗](#)

Open-Source

- Developed global optimization algorithms for an NP-hard problem.
- Achieved 5.6-fold speedup compared to baselines.
- Supported by the Scientific and Technological Research Council of Türkiye.
- Techstack: C, MPI, OpenMP, Bash, SLURM, Git

GO-cluster: Multimodal networks to identify shared disease genes [🔗](#)

Open-Source

- Integrated gene expression, protein-protein interaction, and gene ontology data.
- Identified 22 shared genes in three metabolic disorders.
- Published in IEEE TCBB.
- Techstack: R, Python, Git

SKILLS

Areas: Natural language processing, Bioinformatics, Computational biology, Machine learning, Data science, Graph neural networks, Complex networks, High-performance computing, Parallel algorithms, Software sizing, Software engineering, Sequence analysis, Interdisciplinary research

Tech: Python, PyTorch, TensorFlow, NumPy, Pandas, R, C, HTML, CSS, JavaScript, Git, Docker, Anaconda, Google Vertex AI, Hugging Face, Streamlit, Slurm, Bash, Linux

ORGANIZATIONS

Data Analytics Research Group

darg.iyte.edu.tr [🔗](#)

- Contributed to project proposals and grant applications
- Received grants from TÜBİTAK, EuroHPC, and YÖK
- Led the development efforts in various projects including CoV-SNN
- Built and managed GPU workstations

Software Engineering & Artificial Intelligence Research Group

softw-ai.com [🔗](#)

- Contributed to Horizon Europe and British Council grant proposals
- Led AI development efforts in various projects including AI-Estimator
- Contributed to several peer-reviewed publications and conference papers

GitHub Education

github.blog [🔗](#)

- Organized workshops as the first Campus Advisor in Türkiye.