

# 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 interdisciplinary research, large-scale data analysis, multimodal learning, complex networks, graph neural networks, and automated software sizing.

## EDUCATION

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

## EXPERIENCE

<b>Lecturer</b> <i>Izmir Institute of Technology</i> <ul style="list-style-type: none"><li>Teaching undergraduate and graduate courses</li></ul>	06/2025 – Present
<b>Founder</b> <i>NeuronAct</i> <ul style="list-style-type: none"><li>Building custom AI models, assistants, and agents for businesses</li><li>Consulting for businesses on AI adoption and transformation</li></ul>	06/2025 – Present
<b>Research Assistant</b> <i>Izmir Institute of Technology</i> <ul style="list-style-type: none"><li>Data Analytics Research Group member</li><li>Software Engineering &amp; AI Research Group member</li><li>Assisted 10+ computer science courses</li><li>Led departmental organizational tasks</li></ul>	07/2018 – 06/2025
<b>Software Engineer</b> <i>Airties Wireless Networks</i> <ul style="list-style-type: none"><li>Shipped client-specific features for access points</li><li>Resolved large-scale device overheating issues in production</li></ul>	02/2017 – 05/2018
<b>Research Assistant</b> <i>Izmir University</i> <ul style="list-style-type: none"><li>Assisted core computer science courses</li></ul>	11/2014 – 08/2016
<b>Software Engineer</b> <i>BroadAngle</i> <ul style="list-style-type: none"><li>Built UI/UX for a health and fitness app (DDP Yoga)</li></ul>	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* (Under Review). [🔗](#)
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* (Under Review). [🔗](#)
3. Tenekeci S, Ünlü H. **Peer review and assessment improves software engineering education: Insights from multiple survey studies.** *ACM Transactions on Computing Education* (Under Review). [🔗](#)
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* (Under Review). [🔗](#)
5. Tenekeci S, Erciyes K. **Distributed approximation algorithms for sorting unsigned genomes by reversals.** *Journal of Global Optimization* (Under Review). [🔗](#)
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* (Under Review). [🔗](#)
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, Ülgentürk 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](http://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](http://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](https://github.blog) [🔗](#)

- Organized workshops as the first Campus Advisor in Türkiye.