

Gün Kaynar

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Research Interests

- Computational Biology
- Machine Learning
- NMR Spectroscopy
- Bioinformatics
- CNV Calling
- Metabolomics
- Deep Learning
- Cancer Biology
- Genomics

Education

- Sep 2021 **Bilkent University, Ankara, Turkey, M.Sc., Computer Engineering, Advisor:** Dr. A. Ercument Cicek, **CGPA:** 3.90/4.00.
August 2024 **Thesis:** Pathway-Informed Deep Learning Model for Survival Analysis and Pathological Classification of Gliomas
- Sep 2015 **Bogazici University, Istanbul, Turkey, B.Sc., Molecular Biology and Genetics, CGPA:** 3.14/4.00.
August 2021
- Feb 2020 **Barcelona University, Barcelona, Spain, Exchange, Biology.**
July 2020

Honors and Awards

- 2022 **International Scientific Publication Incentive Program, Scientific and Technological Research Council of Turkey (TÜBİTAK).**
- 2021-present **Bilkent University Comprehensive Scholarship, full tuition waiver, stipend, health insurance, and accommodation during M.Sc.**
- 2020 **Erasmus Mobility Grant, European Commission, full coverage for mobility.**

Publications (Google Scholar, ResearchGate)

Journal Articles

3. Berk Mandiracioglu, Furkan Ozden, **Gun Kaynar**, Mehmet Alper Yilmaz, Can Alkan, A. Ercument Cicek, "ECOLE: Learning to call copy number variants on whole exome sequencing data", in *Nature Communications*, Jan 2024. [Online]. Available: <https://www.nature.com/articles/s41467-023-44116-y>
2. **Gun Kaynar**, Doruk Cakmakci, Caroline Bund, Julien Todeschi, Izzie Jacques Namer, A Ercument Cicek, "PiDeeL: Metabolic Pathway-Informed Deep Learning Model for Survival Analysis and Pathological Classification of Gliomas", in *Bioinformatics*, November 2023. [Online]. Available: <https://academic.oup.com/bioinformatics/article/39/11/btad684/7413171>
1. **Doruk Cakmakci***, **Gun Kaynar***, Caroline Bund, Martial Piotto, Francois Proust, Izzie Jacques Namer, A Ercument Cicek, "Targeted metabolomics analyses for brain tumor margin assessment during surgery", in *Bioinformatics*, June 2022. [Online]. Available: <https://academic.oup.com/bioinformatics/article/38/12/3238/6581075> *: equal contribution

Peer-Reviewed Conference Proceedings

4. Berk Mandiracioglu, Furkan Ozden, **Gun Kaynar**, Mehmet Alper Yilmaz, Can Alkan, A. Ercument Cicek, "ECOLE: Learning to call copy number variants on whole exome sequencing data", in *16th The International Symposium on Health Informatics and Bioinformatics*, Ankara, Turkey, October 2023.

3. **Gun Kaynar**, Doruk Cakmakci, Caroline Bund, Julien Todeschi, Izzie Jacques Namer, A Ercument Cicek, “PiDeeL: Pathway-Informed Deep Learning Model for Survival Analysis and Pathological Classification of Gliomas”, in *16th The International Symposium on Health Informatics and Bioinformatics*, Ankara, Turkey, October 2023.
2. **Doruk Cakmakci***, **Gun Kaynar***, Caroline Bund, Martial Piotto, Francois Proust, Izzie Jacques Namer, A Ercument Cicek, “Targeted metabolomics analyses for brain tumor margin assessment during surgery”, in *27th Annual International Conference on Research in Computational Molecular Biology*, Istanbul, Turkey, April 2023. *: equal contribution
1. **Gun Kaynar**, Doruk Cakmakci, Caroline Bund, Julien Todeschi, Izzie Jacques Namer, A Ercument Cicek, “Pathway-Informed Deep Learning Model for Survival Analysis and Pathological Classification of Gliomas”, in *The 15th RECOMB Satellite Workshop on Computational Cancer Biology*, Istanbul, Turkey, April 2023.

Academic Duty

Reviewer

- **RECOMB 2024** 28th Annual International Conference on Research in Computational Molecular Biology
- **RECOMB 2023** 27th Annual International Conference on Research in Computational Molecular Biology
- **ACM BCB 2022** The 13th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics
- **ISBRA2022** 18th International Symposium on Bioinformatics Research and Applications
- **ACM TCBB** IEEE/ACM Transactions on Computational Biology and Bioinformatics

Volunteer

- **RECOMB 2023** 27th Annual International Conference on Research in Computational Molecular Biology
- **RECOMB-SEQ 2023** The 13th RECOMB Satellite Conference on Biological Sequence Analysis
- **RECOMB-CCB** The 15th RECOMB Satellite Workshop on Computational Cancer Biology
- **RECOMB-CG** The 20th RECOMB Satellite Conference on Comparative Genomics
- **RECOMB-Genetics 2023** The 11th RECOMB Satellite Workshop on Computational Methods in Genetics
- **BIO-Arch** Workshop on Hardware Acceleration of Bioinformatics Workloads

Academic Experience

- 2021-2024 **Graduate Research Assistant**, *Computer Engineering Department, CICEKLAB, Supported by Scientific and Technological Research Council of Turkey*, Bilkent University, Ankara, Turkey.
- 2021-2024 **Graduate Teaching Assistant**, Bilkent University, Ankara, Turkey.
- CS473/CS573: Algorithms I (Fall 2023, Spring 2023, Fall 2022)
 - Introduction to Python and Artificial Intelligence (Summer 2023, Summer 2022)
 - CS115: Introduction to Programming in Python (Spring 2022, Fall 2021)
- 2019 **Undergraduate Research Intern**, *CICEKLAB, under the supervision of Dr. A. Ercument Cicek*, Bilkent University, Ankara, Turkey.
- 2018 **Undergraduate Research Intern**, *Center for Proteomics and Bioinformatics, under the supervision of Prof. Mark Chance*, Case Western Reserve University, Cleveland, OH, USA.

Software Systems (**GitHub**)

GitHub repositories for paper implementations and research projects:

-  ECOLE
-  PiDeeL
-  Targeted Metabolomics
-  HiTCNV
-  Nomind
-  Phosphorylator

Computer Skills

Programming Languages: Python, MATLAB, Java, C, C++

Frameworks: PyTorch, TensorFlow, scikit-learn, OpenCV, Flask, SQL, Matplotlib

Tools: L^AT_EX, Git, Inkscape