METIN BALABAN

Graduate Student

@ balaban@ucsd.edu   📞 +16195609447   📍 San Diego, California   🔗 Homepage   balabanmetin

RESEARCH INTERESTS

My research area is computational biology. My research interests include developing scalable algorithms for large-scale biological data, phylogenetics and its applications in molecular ecology, and comparative genomics.

EDUCATION

University of California, San Diego
PhD in Bioinformatics and System Biology. Advisor: Siavash Mirarab

📅 2017 –   📍 La Jolla, California

Swiss Federal Institute of Technology in Lausanne
Master of Computer Science – GPA 5.54/6.00

📅 2015 – July 2017   📍 Lausanne, Switzerland

Middle East Technical University
Bachelor of Computer Engineering – GPA 3.97/4.00

📅 2011 – 2015   📍 Ankara, Turkey

PUBLICATIONS

📄 Journal Articles

- <u>Metin</u> <u>Balaban</u>, Daniel Roush, Qiyun Zhu, and Siavash Mirarab (2021). "APPLES-2: Faster and More Accurate Distance-based Phylogenetic Placement using Divide and Conquer". In: *bioRxiv*. DOI: `10.1101/2021.02.14.431150`.

- Yueyu Jiang, <u>Metin</u> <u>Balaban</u>, Qiyun Zhu, and Siavash Mirarab (2021). "DEPP: Deep Learning Enables Extending Species Trees using Single Genes". In: *bioRxiv*. DOI: `10.1101/2021.01.22.427808`.

- Shahab Sarmashghi, <u>Metin</u> <u>Balaban</u>, Eleonora Rachtman, Behrouz Touri, Siavash Mirarab, and Vineet Bafna (2021). "Estimating repeat spectra and genome length from low-coverage genome skims with RESPECT". in: *bioRxiv*. DOI: `10.1101/2021.01.28.428636`.

- Eleonora Rachtman, <u>Metin</u> <u>Balaban</u>, Vineet Bafna, and Siavash Mirarab (2020). "The impact of contaminants on the accuracy of genome skimming and the effectiveness of exclusion read filters". In: *Molecular Ecology Resources* 20.3, pp. 649–661. DOI: `https://doi.org/10.1111/1755-0998.13135`.

- <u>Metin</u> <u>Balaban</u>, Niema Moshiri, Uyen Mai, Xingfan Jia, and Siavash Mirarab (2019). "TreeCluster: Clustering biological sequences using phylogenetic trees". In: *PLOS ONE* 14.8, pp. 1–20. DOI: `10.1371/journal.pone.0221068`.

- <u>Metin</u> <u>Balaban</u>, Shahab Sarmashghi, and Siavash Mirarab (2019). "APPLES: Scalable Distance-Based Phylogenetic Placement with or without Alignments". In: *Systematic Biology* 69.3, pp. 566–578. ISSN: 1063-5157. DOI: `10.1093/sysbio/syz063`.

- Daniel Doerr, <u>Metin</u> <u>Balaban</u>, Pedro Feijão, and Cedric Chauve (2017). "The gene family-free median of three". In: *Algorithms for Molecular Biology* 12.1, p. 14.

KEY COMPETENCIES

Computational Biology and Bioinformatics
Data Science   Algorithms
Workflows   Statistics   Optimization

ACHIEVEMENTS

📘 **Awards and scholarships**
1. UC San Diego Center for Microbiome Innovation (CMI) Grand Challenges Award in 2020-2021
2. EPFL (Switzerland) Research scholarship
3. Turkey state scholarship for outstanding academic success

✔ **Conference fellowship awards**
I received travel fellowship awards from NSF at RECOMB 2019 and from ISCB at GLBIO 2019

★ **Valedictorian**
at Middle East Technical University Computer Engineering Department

◎ **5th in Turkey's biggest btandardized (SAT like) exam**
Among 1.856.890 applicants nationwide, I placed 5th in 2010

PRESENTATIONS

🎤 **Conferences**
- ISMB 2020
- RECOMB 2019
- GLBIO 2018

TECHNICAL SKILLS

Python   C/C++   UNIX   R   Bash
Snakemake   Scala   Spark   Java
Hadoop   Matlab   Git   Latex

STRENGTHS

Adaptable   Problem Solver
Team Player   Analytical
Deadline Driven   Target-Oriented
Researcher

WORK EXPERIENCE

Swisscom Digital Lab
Master Thesis. Advisor: Patrick Thiran
📅 2017   📍 Lausanne, Switzerland

Thesis Real-time Traffic Estimation on Highways Using Cellular Data

Swiss Federal Institute of Technology in Lausanne, Laboratory of Computational Biology and Bioinformatics.
Research Scholar. Mentor: Bernard Moret
📅 2015 – 2017   📍 Lausanne, Switzerland

TEACHING

Teaching Assistant
Introduction to Computer Engineering
📅 2020-2021   📍 UC San Diego

LANGUAGES

Turkish   ●●●●●
English   ●●●●●
French   ●●○○○