METIN BALABAN

Graduate Student

balaban@ucsd.edu +16195609447 metinbalaban 3869 Miramar St 2801 CA 92092 La Jolla, California
linkedin.com/in/metinbalaban

EDUCATION

University of California, San Diego
PhD in Bioinformatics and System Biology
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

Technical University of Denmark
Exchange Student
2013 – 2014 Copenhagen, Denmark

PROFESSIONAL EXPERIENCE

Swisscom Digital Lab
Master Thesis
2017 Lausanne, Switzerland

Thesis Real-time Traffic Estimation on Highways Using Cellular Data
- Investigated methods for extracting real-time road traffic information based on noisy cellular localization data.
- Introduced hidden Markov models to provide a solution that deals with any type of measurement noise that might occur during a drive in a highway
- Presented a Kalman Filter based approach which does not require any model for driver behavior other than the basic laws of classic physics.
- Finally, integrating these algorithms with the infrastructure of Swisscom Big Data Platform
- Performed a comparative analysis of various real-time algorithms tested on this platform and discussed the results.

Swiss Federal Institute of Technology in Lausanne, Laboratory of Computational Biology and Bioinformatics
Research Scholar
2015 – December 2016 Lausanne, Switzerland

Project 1: The Gene Family-Free Median of Three
- Developed an Orthology Detection Tool in Python that works on large genomic data
- Developed branch and bound algorithms to enhance the computation time and made theoretical analysis of the algorithm
- Accepted to ALGO 2016 conference on Workshop on Algorithms in Bioinformatics

KEY COMPETENCIES

Computational Biology and Bioinformatics | Algorithms | Networks | Reinforcement Learning | Data Science | Image Processing

ACHIEVEMENTS

Scholarships from Universities and State
I am awarded scholarships in Switzerland and Turkey for my outstanding academic success

1st Rank in Class
I graduated from Middle East Technical University Computer Engineering Department ranking 1st in overall and placed 1st in the first, second, third, and forth year of bachelor

5th in Turkey's Biggest Standardized (SAT like) exam
Among 1.856.890 applicants nationwide, I placed 5th in 2010

4th in ACM ICPC SEERC Among Nationals
As a freshman student in Computer Engineering, I placed 4th among nationals in the most prestigious and the largest global programming competition among college students

TECHNICAL SKILLS

Scala | Spark | Hadoop | Python | C/C++ | Java | Matlab | R | Haskell | SQL | UNIX | Git | Latex

STRENGTHS

Adaptable | Problem Solver | Team Player | Analytical | Multinationally Exposed | Curious | Deadline Driven | Target-Oriented | Researcher

Project 2: Breakpoint Median Problem with Gene Insertions and Deletions

- Extended a computational problem in comparative genomics to a more general and inclusive (realistic) mathematical model of genomes
- Made a mathematical analysis of the new problem, and have shown that the existing solutions for the simpler model does not apply to the generalized model

Swiss Federal Institute of Technology in Lausanne, Theory of Computation Laboratory 2

Research Intern

2014 Summer | Lausanne, Switzerland

Project: Bidirected cut Linear Programming relaxation for metric Steiner tree problem

- Acquiring experience in linear programming based solutions and methods to deal with optimization problems
- Examining a long standing open problem and making an academic presentation to a group scientist and PhD students

PUBLICATIONS

Journal Articles

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

LANGUAGES

Turkish
English
French