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## Research Experience

December 2019 - Present **Aalto University - Espoo, Finland**

Postdoctoral Researcher

Department of Mathematics and Systems Analysis

- Studying the structure of 2-colored best match graphs
- Estimating neuronal manifold dimension
- Reconstructing 3D DNA structure of diploid organisms
- Studying phylogenetics networks
- Mentoring a bachelor student

August 2018 - August 2019 **Child Mind Institute - New York, US**

Data Analyst

Center for the Developing Brain

- Studied how to improve the reliability of fMRIs
- Investigated the impact of functional alignment on the reliability of fMRIs
- Manually cleaned brain image databases
- Explored new strategies to improve current software packages
- Biweekly presented research findings to other teams

Dec - May 2017 **Georgia Institute of Technology - Atlanta, US**

School of Biology, Giboson Lab

- Implemented a linear regression model to estimate the average cell-type specific gene expressions in blood given cell counts and total gene expressions
- Analyzed and cleaned microarray datasets from different platforms

February - April 2016 **Georgia Institute of Technology - Atlanta, US**

School of Biology, Lachance Lab

- Managed human genome datasets of admixed individuals
- Studied risk scores with MATLAB

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## Teaching Experience

August 2015 - May 2017 **Georgia Institute of Technology - Atlanta, US**

Graduate Teaching Assistant

School of Mathematics

- Simplified mathematical concepts for one-on-one tutoring
- Assisted students during small-group learning periods
- Planned and executed lessons for up to 60 students
- Graded all assignments and exams

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## Education

May 2017 **Georgia Institute of Technology, Atlanta, GA**

M.S. in Bioinformatics

Overall GPA - 3.91

February 2015 **University of Basilicata, International Doctoral Seminar JÁNOS BOLYAI, Potenza, Italy**

Ph.D. in Mathematics

110/110 Cum Laude

Thesis: Permutations and Sorting Problems

Associated Institutes: University of Campania, University of Perugia, University of Szeged

- September 2011 **University of Perugia, Perugia, Italy**  
M.S. in Mathematics  
110/110 Cum Laude  
Thesis: Alignments of DNA Sequences Studied within Tropical Mathematics
- February 2009 **University of Perugia, Perugia, Italy**  
B.S. in Mathematics  
110/110 Cum Laude  
Thesis: An Introduction to Algebraic Curves

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## Skills

### Programming Languages

MATLAB, R, Python, Julia, and Shell scripting

### Software

FSL, Git, Maculay2, Magma, and JMP

### Languages

English: Second Language

Italian: Native fluency

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## Conferences and Seminars

- January 2020 **Algebra and Discrete Mathematics Seminar**  
Department of Mathematics and Systems Analysis of Aalto University  
Guest Speaker  
"Colored Best Match Graphs"
- May 2015 **Georgia Tech Combinatorics Seminars**  
Department of Mathematics of Georgia Institute of Technology  
Guest Speaker  
"Combinatorial Properties of Block Transpositions in Symmetric Groups"
- June 2014 **Combinatorics 2014**  
Italian Institute of Mathematics (IndaM)  
Guest Speaker  
"Block transposition diameter of the symmetric group"
- March 2014 **45th Southeastern International Conference on Combinatorics, Graph Theory and Computing (SEICCGTC)**  
National Security Agency and Institute of Combinatorics and its Applications  
Guest Speaker  
"On the block transposition diameter of permutations"