
Work Experience

December 2019 - Present

Aalto University - Espoo, Finland

Postdoctoral Researcher

Department of Mathematics and Systems Analysis

- Develop research papers for publication
- Present original results during conferences and seminars
- Mentor bachelor students

August 2018 - August 2019

Child Mind Institute - New York, US

Data Analyst

Center for the Developing Brain

- Assisted in the implementation, execution and maintenance of fMRI imaging analysis pipelines
- Explored new strategies to improve current software packages
- Biweekly presented research findings to other teams

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

Research Experience

Dec - May 2017

Georgia Institute of Technology - Atlanta, US

School of Biology, Giboson Lab

- Presented statistical analyses to lab members
- Reviewed mathematical part of grant proposals
- Performed permutation test and regression analysis with R
- 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

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

Skills

Programming Languages

MATLAB, R, Python, Julia, and Shell scripting

Software

FSL, Git, Maculay2, Magma, and JMP

Languages

English: Second Language

Italian: Native fluency

Publications

- 1 **J. Jae Wook; A. Korchmaros; J. Vogelstein; M. Milham; T. Xu**
Impact of concatenating fMRI data on reliability for functional connectomics
Manuscript submitted for publication.
- 2 **A. Korchmaros; I. Kovacs**
Automorphism groups of Cayley graphs generated by block transpositions and regular Cayley maps
Discrete Math. 340 (2017), 3125–3139
- 3 **C. Bocci; A. Korchmaros**
Tropical properties of alignment matrices
Adv. Appl. Discrete Math. 11 (2013), no. 1, 23–46

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”
- June 2019 **Organization of Human Brain Mapping 2019**
Organization of Human Brain Mapping (OHBM)
Poster Presentation
“Beyond the test-retest reliability: the impact of the intra- and inter-individual variation”
- 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”