

ALAİTTİN KIRTIŞOĞLU

Applied Mathematics
Illinois Institute of Technology
Chicago, USA

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<https://kirtsoglu.github.io>

RESEARCH INTERESTS

- Optimization, Graph Theory, Approximation Algorithms

EDUCATION

Ph.D. in Applied Mathematics

Illinois Institute of Technology, Advisor: [Hemanshu Kaul](#)

Chicago, USA

2021 Aug–present

M.S. in Mathematics

Hacettepe University, Advisor: [Lale Özkahya](#)

Ankara, Turkey

2019–2021

- Thesis: “Variations of Star Coloring on Graphs”

B.S. Exchange Student

Lublin University of Technology

Lublin, Poland

Feb–July 2016

B.S. in Mathematics

Mustafa Kemal University, **In the first place**

Hatay, Turkey

2014–2018

TAKEN COURSES

- **In Ph.D.:** Computational Mathematics, Applied Analysis, Probability, Statistics, Optimization, Machine Learning, LP-based Approximation Algorithms, Discrete Math, Probabilistic Methods in Combinatorics, Statistical Learning
- **In M.S.:** Graph Theory, Reel Analysis, Algebra, Topology I, Topology II, Game Theory, Algebraic Topology

EXPERIENCES

Fermi National Accelerator Laboratory (FERMILAB)

Intern in a Research Project

Batavia, USA

May 16 – July 22, 2022

- This full time internship is an education program administered by ORISE sponsored by NSF. We collaborate together with high energy physicists to help define methods and algorithms for locating and identifying particles trajectories in data obtained from state-of-the-art 3D detectors using graph theory and related machine learning techniques.

Illinois Institute of Technology

Teaching Assistant

Chicago, USA

2021 –Present

- Calculus 1, Calculus 2, Linear Algebra, Computational Mathematics, Multivariate and Vector Calculus, Complex Analysis, Differential Equations

TED University

Teaching Assistant

Ankara, Turkey

2019 –2021

- Linear Algebra, Multivariable Calculus, Differential Equations, Calculus of One Variable

PAPERS SUBMITTED TO JOURNALS

- [1] A. Kirtışoğlu and L. Özkahya, “Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length, [\[arXiv\]](#) ”.

CONTRIBUTED TALKS

1. **British Combinatorial Conference (Online)** July 2021
“Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length”
2. **SIAM Conferences on Discrete Mathematics (Online)** July 2021
“Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length”
3. **European Combinatorial Conference (Online)** Sep 2021
“Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length”

ORGANIZING

- **VI. Bahar Mathematics Meeting, Hacettepe University** Oct 2019
Student seminars series. The meeting is held at different universities each semester and five to six hundred students attend.
- **Home Seminars** Dec 2018–July 2019
Organized up to 20 math seminars in my home with 30 students studying at METU, Hacettepe and Bilkent Universities.
- **IV. Bahar Mathematics Meeting, Middle East Technical University** Oct 2018

PRESENTATIONS

1. VII. Mathematics Meeting, Boğaziçi University Feb 2020
“A Geometric Proof of the Infinity of Primes”
2. VI. Mathematics Meeting, Hacettepe University Oct 2019
“Acyclic and Star Colorings of Regular Graphs”
3. IV. Mathematics Meeting, Middle East Technical University Oct 2018
“Congruent Numbers and Elliptic Curves”
4. III. Mathematics Meeting, Galatasaray University Feb 2018
“The Game of Hex and Brouwer Fixed Point Theorem”

WORKSHOPS AND CONFERENCES

- 34th Midwestern Conference on Combinatorics, at [Illinois State University](#) in Normal, USA Oct 21–23, 2022
- Metric Graph Theory, at [CIRM](#) in Marseille, France Dec 6–11, 2021
- [Nesin Math Village](#) Summer and Winter Schools, Turkey 2015–2020
- [Cakilarasi Math Village](#) Summer Schools, Turkey 2017–2019
- Analysis and Algebra Summer School, [Turkish Mathematical Society](#) June 19–23, 2017
- Analysis Summer School, [Turkish Mathematical Society](#) July 11–22, 2016

SKILLS AND HOBBIES

- **Languages:** English, Turkish (Native)
- **Computer Skills:** Python, Matlab, Latex
- **Hobbies:** GO Player (1 dan)