Kedar Karhadkar

U.S. Citizen kedar@math.ucla.edu

EDUCATION

- University of California, Los Angeles — Fall 2021-Present
  Ph.D., Mathematics
- Pennsylvania State University — Fall 2017-Spring 2021
  B.S., Mathematics
  GPA: 3.93

PUBLICATIONS

- Pradeep Kr. Banerjee, Kedar Karhadkar, Yu Guang Wang, Uri Alon, and Guido Montufar. Oversquahing in GNNs through the lens of information contraction and graph expansion. Submitted.
- Kedar Karhadkar. Lattice models, differential forms, and the Yang-Baxter equation.
- Joshua Harrington, Kedar Karhadkar, Madeline Kohutka, Tessa Stevens, and Tony W.H. Wong. Two dependent probabilistic chip-collecting games, *Discrete Applied Mathematics* **288** (2021), 74-86.
- Kedar Karhadkar. Parity of the partition function $p(n, k)$, *International Journal of Number Theory*, **15** (2019), no. 4, 799-805.
- Joshua Harrington, Eugene Henninger-Voss, Kedar Karhadkar, Emily Robinson, and Tony W.H. Wong. Sum index and difference index of simple graphs, submitted.

RESEARCH EXPERIENCE

- University of Minnesota, Twin Cities Combinatorics REU — Summer 2020
  Worked on a project involving square ice lattice models and the Yang-Baxter equation, formulating new methods to evaluate partition functions. Supervised by Dr. Ben Brubaker.
- Moravian College Computational/Experimental Mathematics REU — Summer 2019
  Worked on two projects involving probabilistic games and graph theory. Supervised by Dr. Joshua Harrington and Dr. Tony Wong.

CONFERENCE PRESENTATIONS

- Joint Mathematics Meetings — January 2020
- Council on Undergraduate Research REU Symposium — October 2019

HONORS

- Leonhard Euler Memorial Scholarship — Spring 2019
- Putnam Competition, Top 500 — Spring 2019
- Penn State Provost's Award — Fall 2017
- National Merit Finalist — Spring 2017

WORK EXPERIENCE

- Teaching Assistant — Fall 2021-Present
  Served as a TA for several lower-division and upper-division math classes, including machine learning, stochastic processes, discrete math, and calculus.
- Math Tutor — Fall 2018-Spring 2021
  Tutored for Penn State Learning and Upgrade Tutoring.

PROGRAMMING SKILLS

- Python, C++, JavaScript, MATLAB
- PyTorch, Tensorflow, React