Krish Singal

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EDUCATION

University of Pennsylvania   **Philadelphia, PA**
Ph.D. in Computer Science   *2024 - 2029 (anticipated)*
Advised by Erik Waingarten and Sanjeev Khanna

Columbia University   **New York, NY**
B.S. in Computer Science   *2024*
GPA: 4.02/4.0 *(Summa Cum Laude)*

<u>Selected Coursework</u> Randomized Algorithms, Advanced Algorithms, Machine Learning Theory, Computational Complexity, Algorithms for Massive Data, Quantum Computing, Property Testing, Real Analysis, Abstract Algebra, Probability Theory, Topology, Operating Systems, Distributed Systems

SELECTED PUBLICATIONS (Authors are ordered alphabetical by last name)

1. Seamus Connor, Steven DiSilvio, Sasha Kononova, Ralph Morrison, Krish Singal. On the Size and Complexity of Scrambles. In Submission to Discrete Mathematics. 2024.

2. Nila Cibu, Kexin Ding, Steven DiSilvio, Sasha Kononova, Chan Lee, Ralph Morrison, Krish Singal. The Gonality of Chess Graphs. In Submission to Discrete Mathematics. 2024.

3. Peter Coffman, Suman Jana, Samanway Sadhu, Abhishek Shah, Dongdong She, Krish Singal. MC^2: Rigorous and Efficient Directed Greybox Fuzzing. *ACM CCS 2022*.

SELECTED WORK EXPERIENCE

Teaching Assistant   *2022-2024*
Columbia University   *New York, NY*
- Analysis of Algorithms (Fall 2022, Spring 2023), Computational Complexity (Fall 2023), Advanced Algorithms (Spring 2024)

Mathematics Research   *2023*
SMALL REU (Williams College)   *Williamstown, MA*
- Researched computational complexity of problems in graph theory and combinatorial optimization

Software Engineering Intern   *2022*
Apple   *Cupertino, CA*
- Developed memory efficient machine learning models for human gesture detection

Software Engineering Intern   *2021*
Amazon   *Seattle, WA*
- Built multi-tenant library to track and process real-time resource management metrics

SERVICE

Mentor   *2023*
Columbia Undergraduate Learning Seminar in Theoretical Computer Science   *New York, NY*
- Organized and taught lecture series on boolean function analysis

TALKS (Speakers are ordered alphabetical by last name)

Joint Mathematics Meetings (JMM) *2024*

- *On the Size and Complexity of Scrambles.* Steven DiSilvio, Sasha Kononova, and Krish Singal.

HONORS

NSF Graduate Research Fellowship Program Honorable Mention *2024*

Tau Beta Pi Inductee *2024*