

Jiaheng Wang

Laboratory for Foundations of Computer Science,
Informatics Forum, University of Edinburgh, Scotland, EH8 9AB, UK
Email: pw384@hotmail.com (Personal) / jiaheng.wang@ed.ac.uk (Term time)
Homepage: <https://pw384.github.io/>

Education

- Ph.D. student University of Edinburgh, 2020 - ?
Advisor: Heng Guo
- B.Sc. *summa cum laude* in Computer Science (*Turing Class*) Peking University, 2016 - 2020

Visiting (for at least one month)

- Institute for Theoretical Computer Science, Shanghai University of Finance and Economics
2020/05 - 2020/09
Advisor: Pinyan Lu
- Laboratory for Foundations of Computer Science, University of Edinburgh
2019/07 - 2019/08
Advisor: Heng Guo
- Institute of Computing Technology, Chinese Academy of Sciences
2018/09 - 2020/01
Advisor: Xiaoming Sun

Honours and Awards

- Informatics Global PhD Scholarship (3.5 years) University of Edinburgh, 2020
- Turing Class Scholarship Peking University, 2019
- May 4th Scholarship Peking University, 2018
- Merit Student Award Peking University, 2018
- Award for Academic Excellents Peking University, 2017

Research Interests

- Algorithms and complexity of approximate counting.
- Extremal combinatorics.

Research Articles

- [5] **A Simple Polynomial-Time Approximation Algorithm for Total Variation Distances Between Product Distributions.**
Weiming Feng, Heng Guo, Mark Jerrum and **Jiaheng Wang**.
6th SIAM Symposium on Simplicity in Algorithms (SOSA 2023)
arXiv: 2208.00740
- [4] **Swendsen-Wang Dynamics for the Ferromagnetic Ising Model with External Fields.**
Weiming Feng, Heng Guo and **Jiaheng Wang**.
submitted
arXiv: 2205.01985
- [3] **Improved Bounds for Randomly Colouring Simple Hypergraphs.**
Weiming Feng, Heng Guo and **Jiaheng Wang**.
26th International Conference on Randomization and Computation (RANDOM 2022).
arXiv: 2202.05554

Last update: 15/10/2022

- [2] **Inapproximability of Counting Hypergraph Colourings.**
 Andreas Galanis, Heng Guo and **Jiaheng Wang**.
ACM Transactions on Computation Theory, to appear
 arXiv: 2107.05486
- [1] **On the Degree of Boolean Functions as Polynomials over \mathbb{Z}_m .**
 Xiaoming Sun, Yuan Sun, **Jiaheng Wang**, Kewen Wu, Zhiyu Xia and Yufan Zheng.
47th International Colloquium on Automata, Languages and Programming (ICALP 2020).
 arXiv: 1910.12458

Teaching

- At University of Edinburgh:
 - INFR08026 Introduction to Algorithms and Data Structures Teaching Assistant/Tutor, 2022/23
 - INFR11201 Randomized Algorithms Tutor, 2022 Autumn
 - INFR08026 Introduction to Algorithms and Data Structures Teaching Assistant/Tutor, 2021/22
- At Peking University:
 - 04834010 Randomized Algorithms Teaching Assistant, 2020 Spring
 - 04833440 Introduction to the Theory of Computation Teaching Assistant, 2020 Spring
 - 04833040/04832363 Introduction to Computer Systems Teaching Assistant/Tutor, 2019 Fall
 - 04833440 Introduction to the Theory of Computation Teaching Assistant, 2019 Spring
 - 04833040/04832363 Introduction to Computer Systems Teaching Assistant/Tutor, 2018 Fall

Services and Activities

- Conference reviewer: ICALP'21, SODA'21
- Student organizer of SAGT'18 (organizing volunteers, getting involved in press, etc.)

Talks

- Improved Bounds for Randomly Colouring Simple Hypergraphs
 - APPROX/RANDOM 2022, Champaign, IL, United States (virtual conference)
 - Highlights of Algorithms, LSE & QMUL, London, United Kingdom
- Inapproximability of Counting Hypergraph Colourings
 - CS Peer Talk, Peking University, Beijing, China (virtual)
 - Highlights of Algorithms, LSE & QMUL, London, United Kingdom
- On the Degree of Boolean Functions as Polynomials over \mathbb{Z}_m .
 - ICALP 2020, Saarbrücken, Germany (virtual conference)