James Stewart

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Education

University of Oxford — Oxford, UK
DPhil (PhD) in Computer Science — 2018 –Present

- I am supervised by Leslie Ann Goldberg and Andreas Galanis.
- I work on randomised algorithms for approximate counting problems.

Imperial College London — London, UK
MEng in Mathematics and Computer Science (First Class Honours) — 2013 –2017

Journal Publications

1. A. Galanis, L. A. Goldberg, and **J. Stewart**. "Fast algorithms for general spin systems on bipartite expanders." ACM Transactions on Computation Theory (TOCT) 13, no. 4 (2021): 1-18.
2. Z. Chen, A. Galanis, L. A. Goldberg, W. Perkins, **J. Stewart**, and E. Vigoda. "Fast algorithms at low temperatures via Markov chains." Random Structures & Algorithms 58, no. 2 (2021): 294-321.
3. U. Grandi, **J. Stewart**, and P. Turrini. "Personalised rating." Autonomous Agents and Multi-Agent Systems 34, no. 2 (2020): 1-38.

Conference Publications

1. A. Galanis, L. A. Goldberg, and **J. Stewart**. "Fast mixing via polymers for random graphs with unbounded degree.". In Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2021) (pp. 36:1–36:13). Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2021.
2. A. Galanis, L. A. Goldberg, and **J. Stewart**. "Fast algorithms for general spin systems on bipartite expanders." . In 45th International Symposium on Mathematical Foundations of Computer Science (MFCS 2020) (pp. 37:1–37:14). Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2020.
3. Z. Chen, A. Galanis, L. A. Goldberg, W. Perkins, **J. Stewart**, and E. Vigoda. "Fast algorithms at low temperatures via Markov chains." . In Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2019) (pp. 41:1–41:14). Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2019.
4. U. Grandi, **J. Stewart**, and P. Turrini. "The complexity of bribery in network-based rating systems." In Proceedings of the AAAI Conference on Artificial Intelligence, vol. 32, no. 1. 2018.

Work Experience

Amadeus — Nice, France
Software Engineer — 2017 - 2018

- Back-end C++.

Xerox Research Centre Europe — Grenoble, France
Research Intern — Summer 2016

Credit Suisse — London, UK
Software Development Intern — Summer 2015

Teaching

- **Class Tutor** at Department of Computer Science, University of Oxford 2020, 2021
  Probability and Computing
  - Tutor for a class of around 15 master's students.

Awards

- EPSRC Studentship 2018
  DPhil funding for four years.
- Distinguished Project Award 2017
  Awarded to my final-year project by the Department of Computing, Imperial College London.