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.