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32-G628
Cambridge, MA 02139

Interests

Complexity Theory
Circuit Complexity
Formal Verification
Property Testing
Computability Theory

Education

Massachusetts Institute of Technology (Cambridge, MA)
Ph.D. in Computer Science, 2017-present
Advisor: Ryan Williams

Stanford University (Stanford, CA)
Master of Science in Computer Science, 2016

University of Oxford (Oxford, UK)
Master of Arts, 2017
Bachelor of Arts in Mathematics and Computer Science, 2013

Research

University of California, Berkeley (Berkeley, CA)
Visiting Scholar, 2015

Oregon Health & Science University (Portland, OR)
Research Assistant, 2010-2011

Honors

NSF Graduate Research Fellow, 2015-2018
University of Oxford Junior Mathematics Prize, 2013
University of Oxford First Class Degree with Distinction, 2013
St. John's College Scholarship, 2011-2013

Publications

B. Chapman and R. Williams. Smaller ACC0 Circuits for Symmetric Functions. In ITCS, 2022.

B. Chapman and R. Williams. Black-Box Hypotheses and Lower Bounds. In MFCS, 2021.

S. Almagor, **B. Chapman**, M. Hosseini, J. Ouaknine, and J. Worrell. Effective Divergence Analysis for Linear Recurrence Sequences. In CONCUR, 2018.

B. Chapman. The Gotsman-Linial Conjecture is False. In SODA, 2018.

B. Chapman and R. Williams. The Circuit-Input Game, Natural Proofs, and Testing Circuits with Data. In ITCS 2015.

B. Chapman, O. Davulcu, J. Skalicky, R. Bruschweiler, and M. Chapman. Parsimony in Protein Conformational Change. In Structure 2015.

M. Chapman, A. Trzynka, and **B. Chapman**. Atomic modeling of cryo-electron microscopy reconstructions - Joint refinement of model and imaging parameters. In Journal of Structural Biology 2013.

Invited Talks

A Refutation of the Gotsman-Linial Conjecture
University of Warsaw, 2017

Mentoring

MIT Undergraduate Research Opportunity
Korina Digalaki, 2019-2020
Malvika Joshi, 2019-2020

Stanford University Research in Computer Science
Rio LaVigne, 2014

Teaching

MIT 6.042: Math for Computer Science
Teaching assistant & Guest lecturer, Fall 2021
Teaching assistant, Spring 2021

MIT 6.006: Introduction to Algorithms
Teaching assistant, Fall 2020
Teaching assistant, Fall 2019

MIT 6.045: Automata, Computability, and Complexity Theory
Teaching assistant & Guest lecturer, Spring 2020
Teaching assistant & Guest lecturer, Spring 2019

MIT 6.854: Advanced Algorithms
Teaching assistant, Fall 2018

Stanford CS254: Computational Complexity
Guest lecturer, Spring 2015

Stanford CS154: Automata and Complexity Theory
Teaching assistant, Winter 2015

Stanford CS266: Parameterized Algorithms and Complexity
Teaching assistant, Fall 2014