Jeffrey Dudek

jeffreydudek@gmail.com 919-656-3837

Education:

Rice University *Aug 2015 – Aug 2021*
PhD in Computer Science
Research Topics: Probabilistic Inference, Tensor Networks, SAT Solving
Advisor: Prof. Moshe Vardi
Thesis: Planning and Execution for Discrete Integration

Rice University *Aug 2015 – May 2017*
Master of Science in Computer Science
Thesis: Random CNF-XOR Formulas

Rice University *Aug 2011 – May 2015*
Bachelor of Science in Computer Science and Bachelor of Arts in Mathematics
Honors: *summa cum laude* (GPA 4.16/4.33)

Publications:

ProCount: Weighted Projected Model Counting with Graded Project-Join Trees
Jeffrey M. Dudek, Vu H.N. Phan, and Moshe Y. Vardi
International Conferences on Theory and Applications of Satisfiability Testing (SAT), 2021.

Taming Discrete Integration via the Boon of Dimensionality
Jeffrey M. Dudek, Dror Fried, and Kuldeep S. Meel
Neural Information Processing Systems (NeurIPS), 2020.

DPMC: Weighted Model Counting by Dynamic Programming on Project-Join Trees
Jeffrey M. Dudek, Vu H.N. Phan, and Moshe Y. Vardi
International Conference on Principles and Practice of Constraint Programming (CP), 2020.

Parallel Weighted Model Counting with Tensor Networks
Jeffrey M. Dudek and Moshe Y. Vardi
SAT Workshop on Model Counting (MCW), 2020.

ADDMC: Weighted Model Counting with Algebraic Decision Diagrams
Jeffrey M. Dudek, Vu H.N. Phan, and Moshe Y. Vardi
AAAI Conference on Artificial Intelligence (AAAI) 2020

Transformations of Boolean Functions
Jeffrey M. Dudek and Dror Fried
Foundations of Software Technology and Theoretical Computer Science (FSTTCS) 2019

The Hard Problems Are Almost Everywhere For Random CNF-XOR Formulas
Jeffrey M. Dudek, Kuldeep S. Meel, and Moshe Y. Vardi
International Joint Conference on Artificial Intelligence (IJCAI) 2017

Combining the *k*-CNF and XOR Phase-Transitions
Jeffrey M. Dudek, Kuldeep S. Meel, and Moshe Y. Vardi
International Joint Conference on Artificial Intelligence (IJCAI) 2016

Industrial Experience:

Google: Software Engineering Intern *Mountain View, CA*
Research and Machine Intelligence: Search and Understanding. *May 2017 – Aug 2017*
Applied computer vision techniques to detect figures, captions, and tables in scientific publications.

Microsoft: Software Design Engineer in Test Intern *Redmond, WA*
Microsoft Azure: Fabric. *May 2014 – Aug 2014*
Designed and implemented service to detect and explain large scale downtime events.

Windows Phone: Notification Platform. *May 2013 – Aug 2013*
Designed and implemented more reliable and complete long-term testing of the notification platform.

Windows Phone: Services. *May 2012 – Aug 2012*
Adapted and improved software to analyze, validate, and visualize telemetry data.

Teaching Experience:

COMP 140: Computational Thinking *Fall 2013, Fall 2014*
Guided group discussions in class for 24 students 3 hours a week. Developed 2 weeks of in-class activities on statistical modeling and an associated homework assignment.

Teaching Assistant:

- COMP 487: Computational Complexity *Fall 2017*
- COMP 421: Operating Systems and Concurrent Programming *Spring 2017, Spring 2018*
- COMP 409: Logic in Computer Science *Fall 2016*
- COMP 411: Principles of Programming Languages *Spring 2015, Spring 2016*
- COMP 182: Algorithmic Thinking *Spring 2013*
- COMP 140: Computational Thinking *Fall 2012*

Awards:

Ken Kennedy Institute - Cray Graduate Fellowship *2017 – 2018*
Awarded by Cray and the Ken Kennedy Institute for research in high performance computing.

NSF Graduate Research Fellowship (Honorable Mention) *2017*

Ken Kennedy Institute - Enhancement Fellowship *2015 – 2019*
Awarded by the Rice Computer Science Department and the Ken Kennedy Institute for excellence in Computer Science.

Zevi & Bertha Salsberg Award *2012*
Awarded by Will Rice College for freshman achievement.

Trustee Scholarship *2011 – 2015*
Awarded by Rice University for excellence in academics.

LJ Walsh Scholarship *2011 – 2015*
Awarded by Rice University for excellence in academics.

Thomas J. Watson Memorial Scholarship *2011 – 2015*
Awarded by IBM for academic merit.

Service and Extracurricular Activities:

President, Rice CS Graduate Student Association *Jan 2019 – Dec 2020*
President, Rice Queer Graduate Student Association *Mar 2019 – Mar 2020*
Treasurer, Graduate Student Gaming Club (GradGames) *May 2018 – April 2020*
Head, Rice CS Graduate Faculty Search Committee *Spring 2017, Spring 2018, Spring 2019*
Vice President, Rice Queer Graduate Student Association *June 2018 – Mar 2019*
Academic Coordinator, Rice CS Graduate Student Association *Nov 2016 – Jan 2019*
Treasurer, Rice Queer Graduate Student Association *Aug 2017 – June 2018*
Vice President, Undergraduate Board Game Club (Fastwarp) *Aug 2012 – May 2014*