Andrew Warren

Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213
awarren1@andrew.cmu.edu | andrew-warren.github.io

Education

Carnegie Mellon University — *Pittsburgh, PA*
PhD Pure and Applied Logic (joint Computer Science, Mathematical Sciences, Philosophy) — *May 2022 (expected)*
- Advisor: Prof. Dejan Slepčev

Carnegie Mellon University — *Pittsburgh, PA*
MS Mathematical Sciences — *May 2019*
- Advisor: Prof. Jeremy Avigad

Reed College — *Portland, OR*
BA Mathematics — *May 2014*
- Honors thesis advisor: Prof. Thomas Wieting

Other Affiliations

Fall 2021	**Visiting Graduate Student**, Simons Institute for the Theory of Computing, UC Berkeley
Fall 2014	**Research Assistant**, Center for Advanced Computing, Reed College
Summer 2010-2012	**Research Assistant**, Centre for Molecular and Materials Science, TRIUMF National Laboratory

Publications

Published

Warren, Andrew, 2021. Fluctuation bounds for ergodic averages of amenable groups. *Bulletin of the London Mathematical Society*, to appear. arXiv:2107.02403.

Submitted

Warren, Andrew, 2021. Wasserstein conditional independence testing. arXiv:2107.14184.

In Preparation

Warren, Andrew, with Dejan Slepčev. Metric properties and local limit of nonlocal Wasserstein distances. Preprint.

Presentations

Conference Presentations

January 2022. *(Topic to be confirmed)*. Invited talk, Joint Mathematics Meeting of the American Mathematical Society, Seattle.

July 2021. *Wasserstein Conditional Independence Testing*. Contributed poster, Geometry and Topology meets Data Analysis and Machine Learning (GTDAML) 2021.

April 2019. *Fluctuations of Amenable Ergodic Averages.* Contributed talk, Workshop on Dynamical Systems and Related Topics, University of Maryland (College Park).

June 2018, *Uniform Metastability for Ergodic Averages of Amenable Groups*. Contributed poster, Canadian Mathematical Society Summer Meeting, Fredericton, New Brunswick.

Seminar Talks

April 2021. *Natural Gradient Descent*. CMU-SIAM working group seminar, Pittsburgh.

March 2021. *Parametrized Measure Models*. CMU-SIAM working group seminar, Pittsburgh.

December 2020. *Wasserstein Gradient Flows, Chi-squared Divergence, and Stein Variational Gradient Descent*. CMU Center for Nonlinear Analysis working group seminar, Pittsburgh.

November 2020. *An Optimal Control Perspective on Deep Learning*. CMU-SIAM working group seminar, Pittsburgh.

November 2019. *Continuum Approximations for Wide Neural Networks and Gradient Descent.* CMU statistics and machine learning seminar, Pittsburgh.

Teaching Experience

Spring 2021	**Game Theory**, Teaching Assistant	*CMU*
Fall 2020	**Revolutions in Science**, Teaching Assistant	*CMU*
Spring 2020	**Game Theory**, Teaching Assistant	*CMU*
Fall 2018	**Formal Logic**, Teaching Assistant	*CMU*
Spring 2018	**The Nature of Reason**, Teaching Assistant	*CMU*
Fall 2016	**Rationalism and Empiricism**, Teaching Assistant	*CMU*
Spring 2016	**The Nature of Reason**, Teaching Assistant	*CMU*
Summer 2015	**Astrophysics**, *The Summer Science Program*, Lead Teaching Assistant	*Boulder, CO*
Summer 2014	**Astrophysics**, *The Summer Science Program*, Teaching Assistant	*Montecito, CA*
2012-2014	**Reactor Training Program**, *Reed Research Reactor*, Instructor	*Reed*

Service

Spring 2021 - present	**Departmental Diversity, Equity, and Inclusion Committee**, Graduate student co-representative
2017 - 2019	**Department Colloquium**, Co-organizer