

Parker Edwards

CONTACT INFORMATION	University of Florida Mathematics Department PO Box 118105 Gainesville, FL 32611 USA	<i>Email:</i> pedwards@ufl.edu <i>Website:</i> people.clas.ufl.edu/pedwards
EDUCATION	University of Florida Ph.D. in Mathematics Adviser: Peter Bubenik	August 2016 - May 2020 (expected)
	University of Oxford M.Sc. in Mathematics and the Foundations of Computer Science (with Distinction) Dissertation: Topological Data Analysis of Real Algebraic Varieties Advisers: Emilie Dufresne and Heather Harrington	October 2015 - October 2016
	University of Florida B.S. in Mathematics, minor in Computer Science (Magna Cum Laude, Phi Beta Kappa) Honors thesis: Topological Data Analysis of Speech Data Adviser: Kevin Knudson	August 2011 - April 2015
HONORS, AWARDS, AND SCHOLARSHIPS	- U. Florida Informatics Institute Fellowship - Prize for Excellence, M.Sc. in Mathematics and Foundations of CS - Distinction on M.Sc. in Mathematics and Foundations of CS course - U. Florida Graduate School Fellowship (tuition and stipend) - U. Oxford Frost Scholarship (tuition and stipend) - U. Florida Mathematics, Pi Mu Epsilon Undergraduate Award - U. Florida College of Liberal Arts and Sciences, Anderson Scholar	January 2018 - January 2020 October 2016 October 2016 August 2016 - May 2020 October 2015 - September 2016 April 2015 January 2013
RESEARCH INTERESTS	Topological data analysis, applied topology, applied algebraic geometry, machine learning, and applications.	
PEER-REVIEWED RESEARCH ARTICLES	- (with Emilie Dufresne, Heather Harrington, and Jonathan Hauenstein) <i>Sampling Real Algebraic Varieties for Topological Data Analysis</i> , 18th IEEE International Conference on Machine Learning and Applications (ICMLA), (accepted), preprint available at https://arxiv.org/abs/1802.07716	
SUBMITTED PAPERS	- (with Leo Betthausen and Peter Bubenik) <i>Graded persistence diagrams and persistence landscapes</i> , preprint available at https://arxiv.org/abs/1904.12807	
IN PREPARATION	- Parker Edwards, Nikola Milicevic, Kristen Skruber, Peter Bubenik, and Eric Vitriol. <i>Topological data analysis for actin networks</i> .	
MATHEMATICAL SOFTWARE	- tdasampling , a Python package to sample real algebraic varieties for topological data analysis, https://github.com/P-Edwards/tdasampling	
INVITED TALKS	- <i>Centro de Investigación en Matemáticas, Guanajuato, Mexico</i> Workshop and Winter School on Geometric and Topological Data Analysis	January 2020

CONTRIBUTED TALKS	- <i>U. Bern (SIAM Applied Algebraic Geometry 2019):</i>	July 2019
	Sampling Real Algebraic Varieties for Topological Data Analysis	
	- <i>Ohio State U. (Midwest Student Conference on Geometric Data Analysis):</i>	May 2019
	Sampling Real Algebraic Varieties for Topological Data Analysis	
	- <i>IST Austria (Applied Topology: Methods, Computation, and Science 8):</i>	June 2018
	Persistence Landscapes are Graded Persistence Diagrams	
- <i>Atlanta, GA (SIAM Applied Algebraic Geometry 2017):</i>	August 2017	
Topological Data Analysis for Real Algebraic Varieties		
- <i>U. Florida (Joint FSU/UF Topology and Dynamics meeting):</i>	February 2017	
Extracting Topological Information from Systems of Polynomials		
- <i>Atlanta, GA (Joint Math Meetings Mini-Symposium):</i>	January 2017	
Topological Data Analysis for Real Algebraic Varieties		
SEMINAR TALKS	- <i>U. Florida (Topology and Dynamics Seminar):</i>	October 2019
	Stability for Graded Persistence Diagrams	
	- <i>U. Florida (Applied Topology Seminar):</i>	October 2019
	Feature Sizes for Real Semialgebraic Sets	
	- <i>U. Florida (Topology and Dynamics Seminar):</i>	March 2019
	Graded Persistence Diagrams and Persistence Landscapes	
	- <i>U. Florida (SIAM Seminar):</i>	April 2019
	Topological Data Analysis of Actin Networks	
	- <i>U. Florida (UF Informatics Institute Student Data Analysis Seminar):</i>	March 2018
	The Topology of Cyclo-octane's Configuration Space	
- <i>U. Florida (Graduate Student Topology seminar):</i>	October 2017	
Algebraic Stability of Persistence Diagrams		
- <i>U. Florida (UF Informatics Institute Student Data Analysis Seminar):</i>	August 2017	
Finding Good Data Samples from Polynomial Systems		
- <i>U. Florida (Graduate Student Topology seminar, 2 talks):</i>	February 2017	
Finding Matchings Between Persistence Diagrams		
- <i>U. Florida (Graduate Student Topology seminar):</i>	March 2015	
Stability for Persistence Diagrams		
POSTER PRESENTATIONS	- <i>Ohio State U. (TGDA@OSU Workshop on Structure in the Micro-World):</i>	May 2019
	Topological Data Analysis for Actin Networks	
	- <i>U. Chicago (Workshop on Geometric Data Analysis):</i>	May 2019
Graded Persistence Diagrams and Persistence Landscapes		
- <i>Atlanta, GA (Southeast Center for Mathematics and Biology Symposium):</i>	January 2019	
Topological Data Analysis for Actin Networks		
ORGANIZING ACTIVITIES AND SERVICE	- U. Florida Mathematics Department Graduate Committee member	Jan. - Dec. 2018
	- President of U. Florida Graduate Mathematics Association	Dec. 2017 - Dec. 2018
	- Organizer: UF Informatics Institute Student Data Analysis Seminar	Aug. 2017 - Present
	- U. Oxford, Exeter College IT Committee Member	Jan. - June 2016
TEACHING	U. FLORIDA	
	- Trigonometry (MAC 1114)	January - May 2019
	- Discussion sections, Calculus I	August - December 2018
	- Discussion sections, Calculus I	January - April 2018
	- Discussion sections, Precalculus Algebra with Trigonometry	August - December 2017
PROFESSIONAL EXPERIENCE	International Business Machines Corporation , Software Development Intern, Research Triangle Park, NC	June - December 2014

MEETINGS ATTENDED	- SIAM Applied Algebraic Geometry 2019, U. Bern	July 2019
	- Midwest Student Conference on Geometric Data Analysis, Ohio State	May 2019
	- TGDA@OSU TRIPODS Center Workshop on Structure in the Micro-World, Ohio State U.	May 2019
	- Workshop on Geometric Data Analysis, U. Chicago	May 2019
	- Joint FSU/UF Topology and Dynamics Meeting, Florida State University	February 2019
	- Southeast Center for Mathematics and Biology Symposium, GA Tech	January 2019
	- Tutorial on Multiparameter Persistence, Institute for Mathematics and its Applications, Minneapolis MN	August 2018
	- Casa Matemática Oaxaca Workshop on Multiparameter Persistent Homology, Oaxaca, Mexico	August 2018
	- Applied Topology: Methods, Computation, and Science 8, IST Austria	June 2018
	- Theory and Foundations of Topological and Geometric Data Analysis, Ohio State University.	May 2018
	- SIAM Applied Algebraic Geometry 2017, GA Tech.	August 2017
	- Joint Mathematics Meetings, Atlanta GA	January 2017
	- British Applied Mathematics Colloquium, U. Oxford	April 2016
	- South Eastern Logic Symposium 2015, U. Florida	March 2015
	PROFESSIONAL MEMBERSHIPS	- American Mathematical Society (since 2016)
- Society of Industrial and Applied Mathematics (since 2016)		