

# Eion Blanchard

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EDUCATION	<b>University of Illinois at Urbana-Champaign</b> <i>Doctor of Philosophy, Mathematics</i>	<i>Champaign, IL</i> Expected May 2023
	<b>University of Illinois at Urbana-Champaign</b> <i>Master of Science, Applied Mathematics</i> Concentration in Computational Science and Engineering (CSE)	<i>Champaign, IL</i> Expected May 2020
	<b>University of Florida</b> <i>Bachelor of Science, Mathematics</i> Degree conferred <i>summa cum laude</i> · Honors Program · GPA 3.97 GRE Verbal: 165, Quantitative: 165, Analytical: 4.5	<i>Gainesville, FL</i> May 2018
INTERESTS	Complexity of logical theories, tame geometry, automata theory, quantum computing, partial differential equations, topological data analysis, gerrymandering	
RESEARCH	<b>Applied Research Laboratories, University of Texas at Austin</b> <i>Research Engineering Scientist Associate</i>	<i>Austin, TX</i> June 2019 - Aug 2019
	<ul style="list-style-type: none"><li>· Researched quantum error correction under the direction of Brian La Cour</li><li>· Implemented the first cellular-automaton decoder for the color code, using only local information in measurement-based quantum computing to correct physical qubit errors by constructing tetrahedral code lattices, instantiating the restriction decoder scheme, and adapting the algorithm in spirit of just-in-time decoding principles</li></ul>	
	<b>Illinois Geometry Lab, University of Illinois at Urbana-Champaign</b> <i>Graduate Research Mentor</i>	<i>Champaign, IL</i> Aug 2018 - May 2019
	<ul style="list-style-type: none"><li>· Researched logic and algorithms from automata theory to mechanize arithmetic operations for Ostrowski numeration systems based on irrational quadratic numbers</li><li>· Mentored team of 5 undergraduate students and managed group meetings, project timeline, and research execution under the direction of Philipp Hieronymi</li></ul>	
	<b>Metric Geometry and Gerrymandering Group</b> <i>Voting Rights Data Institute (VRDI) Fellow</i>	<i>Cambridge, MA</i> June 2018 - July 2018
	<ul style="list-style-type: none"><li>· Researched U.S. redistricting and voting systems under the direction of Moon Duchin</li><li>· Studied voting and demographic data sets from the U.S. Census Bureau and numerous state counties through data inquiry, visualization, topological data analysis, and Markov chain Monte Carlo methods for districting plans</li></ul>	
<b>Budapest Semesters in Mathematics, St. Olaf College</b> <i>Study Abroad Student, Eötvös Loránd University</i>	<i>Budapest, Hungary</i> June 2017 - Aug 2017	
<ul style="list-style-type: none"><li>· Conducted research in graph rigidity—specifically, unit disk graphs and compactness in low-dimensions—under the direction of Tibor Jordán</li></ul>		
<b>University of Washington</b> <i>NSF Research Experience for Undergraduates (REU) Participant</i>	<i>Seattle, WA</i> June 2016 - Aug 2016	
<ul style="list-style-type: none"><li>· Conducted research on the inverse problem for electrical networks—specifically, graph embeddings on surfaces of extreme genera—under the direction of James Morrow</li></ul>		
TEACHING	<b>University of Illinois at Urbana-Champaign</b> <i>Graduate Teaching Assistant, Department of Mathematics</i>	<i>Champaign, IL</i> Aug 2018 - Present
	<ul style="list-style-type: none"><li>· Lead weekly recitation and discussion sections for students in Math 112 College Algebra and Math 220/221 Calculus I, grade quizzes and exams, and hold weekly tutoring hours</li><li>· Teach an active-learning classroom under the Merit program, targeted to support top scholars from underrepresented groups in STEM</li></ul>	
	<b>University of Florida</b> <i>Undergraduate Teaching Assistant, Dept. of Computer Science &amp; Eng.</i>	<i>Gainesville, FL</i> Aug 2016 - May 2018
<ul style="list-style-type: none"><li>· Led weekly recitation and discussion sections for students in COT3100 Applications of Discrete Structures, proctored and graded assembly exams, and held weekly office hours</li></ul>		

AWARDS	Illinois List of Teachers Ranked As Excellent, Outstanding Designation	Spring 2019
	Anderson Scholar, Highest Distinction	Oct 2016
	Benacquisto Scholar	Aug 2014 - May 2018
	Bright Futures Florida Academic Scholar	Aug 2014 - May 2018
	National Merit Scholar	June 2014
PROFESSIONAL	<b>University of Michigan</b>	<i>Ann Arbor, MI</i>
	<i>LG&amp;TBQ Geometry and Topology Conference</i>	June 2019
	· Attended a week-long mathematics conference for geometry, topology, and dynamical systems which fostered community and collaboration among queer mathematicians	
	<b>University of Illinois at Urbana-Champaign</b>	<i>Champaign, IL</i>
	<i>Program for Interdisciplinary and Industrial Internships at Illinois</i>	May 2019
	· Completed computational bootcamps in linear algebra, statistical analysis, R, and Python	
	<b>Out for Undergrad</b>	<i>San Francisco, CA</i>
	<i>Out for Undergrad Technology Conference (OUTC)</i>	Sept 2015, Sept 2016, Sept 2017
	· Attended a multi-day summit of workshops on ally-ship and professionally leveraging queer identity in the technology industry	
	<b>Pacific Institute for the Mathematical Sciences</b>	<i>Vancouver, BC, Canada</i>
<i>PIMS-NSF Undergraduate Workshop on Supersymmetry (PUWS)</i>	Aug 2016	
· Attended a week-long summit of lectures and problem-solving sessions on the algebraic structures of supersymmetry and adinkra graphs generalized to symmetric groups		
<b>Statistical and Applied Mathematical Sciences Institute</b>	<i>Research Triangle Park, NC</i>	
<i>Education and Outreach (E&amp;O) Undergraduate Workshop</i>	Oct 2015	
· Attended a multi-day lecture series including talks on topology for statistical analysis		
<b>Telluride Association</b>	<i>Ann Arbor, MI</i>	
<i>Telluride Association Summer Program (TASP)</i>	June 2013 - Aug 2013	
· Attended a semi-monastic food studies intensive with other rising high-school seniors		
INVITED TALKS	<b>Wolfram Research, Wolfram Summer School</b>	<i>Champaign, IL</i>
	<i>“Measuring Congressional district meandering and gerrymandering”</i>	Nov 2019
	<b>Telus World of Science, Unveiling the Universe Series</b>	<i>Vancouver, BC, Canada</i>
	<i>“Extreme genera and other techniques of graph embeddings”</i>	Aug 2016
SERVICE	<b>Association for Women in Mathematics</b>	<i>Champaign, IL</i>
	<i>Member, University of Illinois Chapter</i>	Aug 2018 - Present
	<b>Varsity Vocals</b>	<i>Chicago, IL</i>
	<i>Judge, International Championship of Collegiate A Cappella</i>	Feb 2019 - Present
	<b>University of Florida Mathematics Society</b>	<i>Gainesville, FL</i>
<i>Secretary</i>	Sept 2014 - May 2017	
	<b>Student Honors Advisory Board, UF Honors Program</b>	<i>Gainesville, FL</i>
	<i>Member</i>	Jan 2016 - Dec 2017
INVOLVEMENT	<b>Gestalt</b>	<i>Gainesville, FL</i>
	<i>Director of Music, Co-Founder</i>	May 2016 - Apr 2018
	· Created competitive collegiate a cappella group—an organized whole that is perceived as more than the sum of its parts; directed group to victories as ICCA Quarterfinal Champion and Runner-Up for ICCA Semifinal, SoJam, BOSS, and NACC competitions	
	· Led group and individual rehearsals, coordinated repertoire and musical sets; engineered production of CARA-winning <i>Beyond the Archetype</i> (2017) for “Best Debut Album” and live competition album <i>Body Memory</i> (2019)	
SKILLS	Intermediate: Python, R, QGIS, MATLAB, LaTeX	
	Basic: Git, SQL, Java, C++	