

# Michael Yoshizawa

2688 Marsh Drive  
San Ramon, CA 94583

Phone: (925) 247-4249  
E-mail: michael.yoshizawa@gmail.com  
Web: math.ucsb.edu/~myoshi

---

INTENT	Ph.D. mathematician seeking to apply problem-solving and analytical skills in a collaborative setting to solve real-world challenges involving big data.	
EDUCATION	<b>University of California, Santa Barbara</b> , Santa Barbara, CA <i>Ph.D., Mathematics</i> 6/2013 <ul style="list-style-type: none"><li>• Advisor: Professor Martin Scharlemann</li><li>• Dissertation: <i>High Distance Heegaard Splittings via Dehn Twists</i></li></ul> <i>M.A., Mathematics</i> 6/2009 <p>My graduate studies involved using topology, a field of mathematics focused on understanding basic notions of shape, to analyze spaces known as 3-manifolds. 3-manifolds are locally 3-dimensional, but globally can have very complicated structure and be difficult to visualize. Ideas from topology are now being applied to study high-dimensional data sets and recently a concept from 3-manifold topology was generalized to form the foundation for a new clustering algorithm.</p> <b>Pomona College</b> , Claremont, CA 5/2007 <ul style="list-style-type: none"><li>• Graduated summa cum laude with distinction in senior exercise (GPA 3.98)</li><li>• Phi Beta Kappa member (inducted junior year)</li></ul>	
ADDITIONAL RESEARCH EXPERIENCE	<b>National Science Foundation East Asian and Pacific Summer Institute</b> Summer 2012 <i>Nara Women's University in Nara, Japan</i> <ul style="list-style-type: none"><li>• Collaborated with topology research group in Japan</li></ul> <b>Research Experience for Undergraduates</b> , <i>Iowa State University</i> Summer 2006 <ul style="list-style-type: none"><li>• Used MATLAB and theoretical algebra to optimize Runge-Kutta formulas</li></ul>	
EXPERIENCE	<b>Teaching Associate, UCSB</b> Fall 2009, Summer 2010 <ul style="list-style-type: none"><li>• Instructor of record for two calculus classes of 50 and 125 students</li></ul> <b>Teaching Assistant, UCSB</b> 2007-2013 <b>Instructional Improvement Program Grant Recipient</b> Fall 2012 - Spring 2013 <ul style="list-style-type: none"><li>• Goal: Provide resources to undergraduates to help accommodate higher enrollments</li><li>• Used HTML and Python scripts to construct website (<a href="http://math.ucsb.edu/oml">http://math.ucsb.edu/oml</a>)</li></ul>	
SKILLS	Computer Programming: Recent experience with Python Prior experience with MATLAB, Java, and C++ Languages: Japanese (3 years of study)	
COURSERA.ORG CLASSES	Algorithms I (Stanford) Winter 2013 Machine Learning (Stanford) Spring 2013 Introduction to Data Science (University of Washington) Spring 2013	
PUBLISHED PAPERS	(with R. Blair and M. Tomova) <i>High Distance Bridge Surfaces</i> , <i>Algebraic &amp; Geometric Topology</i> 13 (2013), 2925-2946.  (with E. Flapan, B. Mellor, and R. Naimi) <i>Classification of Topological Symmetry Groups of <math>K_n</math></i> , <i>Topological Proceedings</i> 43 (2014), 209-233.	
ACCEPTED PAPERS	<i>High Distance Heegaard Splittings via Dehn Twists</i> , To appear in <i>Algebraic &amp; Geometric Topology</i> , <a href="http://arxiv.org/abs/1212.1199">http://arxiv.org/abs/1212.1199</a> .	
INVITED PRESENTATIONS (SELECTED)	<b>AMS Special Session on Topology of 3-Manifolds</b> , <i>Iowa State University</i> 4/2013 <b>Topology Seminar</b> , <i>University of Texas at Austin</i> 10/2012 <b>Workshop on Topology and Geometry</b> , <i>Hiroshima University, Japan</i> 8/2012	
AWARDS	<b>Dissertation Fellowship</b> , <i>UCSB Graduate Division</i> Spring 2013 <b>John Stauffer Prize for Academic Merit in the Sciences</b> , <i>Pomona College</i> 2007 <b>Hugh Hamilton Mathematics Prize</b> , <i>Pomona College</i> 2007	