

CONTACT	<i>E-mail:</i> ewah@umich.edu	<i>Website:</i> http://www.elainewah.com
CITIZENSHIP	USA	
EDUCATION	University of Michigan, Ann Arbor Ph.D., Computer Science & Engineering, April 2016 Thesis: <i>Computational Models of Algorithmic Trading in Financial Markets</i> Advisor: Michael P. Wellman University of California, Los Angeles M.S., Computer Science, December 2010 Thesis: <i>Portfolio Optimization through Data Conditioning and Aggregation</i> University of Illinois at Urbana-Champaign B.S., Electrical Engineering with Honors, May 2008 Chancellor's Scholar / James Scholar / Minors in Computer Science, Mathematics	
PROFESSIONAL EXPERIENCE	BlackRock New York, NY <i>Vice President, Data Science Team Lead – AI Labs</i> June 2021 to present IEX Group, Inc. New York, NY <i>Head of Policy Research</i> Jan. 2020 to Oct. 2020 <i>Head of Quantitative Research</i> Dec. 2018 to Dec. 2019 <i>Market Quality</i> July 2016 to Nov. 2018 U.S. Securities and Exchange Commission Washington, DC <i>Fall Intern, Division of Economic and Risk Analysis</i> Sept. 2015 to Dec. 2015 <i>Summer Intern, Division of Economic and Risk Analysis</i> May 2014 to Aug. 2014 Microsoft Research New York, NY <i>Research Intern</i> June 2015 to Aug. 2015 University of Michigan, Computer Science & Engineering Ann Arbor, MI <i>Graduate Student Research Assistant</i> Sept. 2013 to April 2015 GMO Berkeley, CA <i>Equity Portfolio Management Software Engineer Intern</i> June 2011 to Aug. 2011 Citigroup New York, NY <i>Quantitative Trading & Analysis Summer Analyst</i> June 2010 to Aug. 2010 <i>Technology Summer Analyst</i> June 2009 to Aug. 2009 National Center for Supercomputing Applications Urbana, IL <i>Research Intern</i> June 2008 to Dec. 2008 Illinois Leadership Center Urbana, IL <i>Graf Intern</i> Aug. 2007 to June 2008 National Instruments Austin, TX <i>Applications Engineering Intern</i> May 2007 to Aug. 2007	

CONFERENCE PUBLICATIONS	<p>Elaine Wah, Sébastien Lahaie, and David M. Pennock. An empirical game-theoretic analysis of price discovery in prediction markets. In <i>25th International Joint Conference on Artificial Intelligence (IJCAI 2016)</i>, pages 510–516, 2016.</p> <p>Elaine Wah, Dylan R. Hurd, and Michael P. Wellman. Strategic market choice: Frequent call markets vs. continuous double auctions for fast and slow traders. In <i>Third EAI Conference on Auctions, Market Mechanisms, and their Applications (AMMA 2015)</i>, 2015.</p> <p>Elaine Wah and Michael P. Wellman. Welfare effects of market making in continuous double auctions. In <i>14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2015)</i>, pages 57–66. IFAAMAS, 2015.</p> <p>Elaine Wah and Michael P. Wellman. Latency arbitrage, market fragmentation, and efficiency: A two-market model. In <i>14th ACM Conference on Electronic Commerce (EC 2013)</i>, pages 855–872. ACM, 2013.</p> <p>Elaine Wah, Yi Mei, and Benjamin W. Wah. Portfolio optimization through data conditioning and aggregation. In <i>23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2011)</i>, pages 253–260. IEEE, 2011.</p>
JOURNAL PUBLICATIONS	<p>Elaine Wah, Mason Wright, and Michael P. Wellman. Welfare effects of market making in continuous double auctions. <i>Journal of Artificial Intelligence Research</i>, 59:613–650, 2017.</p> <p>Michael P. Wellman and Elaine Wah. Strategic agent-based modeling of financial markets. <i>RSF: The Russell Sage Foundation Journal of the Social Sciences</i>, 3(1):104–119, 2017.</p> <p>Elaine Wah and Michael P. Wellman. Latency arbitrage in fragmented markets: A strategic agent-based analysis. <i>Algorithmic Finance</i>, 5(3-4):69–93, 2016.</p>
BOOK CHAPTERS	<p>Elaine Wah, Stan Feldman, Francis Chung, Allison Bishop, and Daniel Aisen. A comparison of execution quality across U.S. stock exchanges. In Walter Mattli, editor, <i>Global Algorithmic Capital Markets</i>, chapter 5. Oxford University Press, 2019.</p>
WORKING PAPERS	<p>Elaine Wah and Stan Feldman. Gone in sixty seconds: The cost of trading in long queues. <i>SSRN Electronic Journal</i>, 2018.</p> <p>Elaine Wah. How prevalent and profitable are latency arbitrage opportunities on U.S. stock exchanges? <i>SSRN Electronic Journal</i>, 2016.</p>
INVITED TALKS	<ul style="list-style-type: none"> • INFORMS 2021 Annual Meeting (Virtual) Financial Market Design and the Rise of Electronic Trading Oct. 2021 • CQA Quantitative Trading Seminar 2019 New York, NY Buy High & Sell Low? How Exchange Market Structure Improves Performance June 2019 • Stevens Conference on High Frequency Finance & Analytics Hoboken, NJ Latency Arbitrage in Fragmented Markets Nov. 2016 • U-M Financial Stability Conference Student Workshop Ann Arbor, MI Strategic Market Choice: Frequent Call Markets vs. Continuous Double Auctions for Fast and Slow Traders Oct. 2015 • AAMAS 2015 Doctoral Consortium Istanbul, Turkey Computational Models of Algorithmic Trading in Financial Markets May 2015 • U.S. Securities and Exchange Commission Washington, DC Frequent Call Markets and the Latency Arms Race July 2014 • Federal Reserve Bank of Chicago Chicago, IL One-Second Call Markets and the Latency Arms Race May 2014 • U.S. Commodity Futures Trading Commission Washington, DC Frequent Call Markets to Eliminate Latency Arms Race Feb. 2014

	<ul style="list-style-type: none"> • U-M Center on Finance, Law, & Policy Seminar Ann Arbor, MI Latency Arbitrage, Market Fragmentation, and Efficiency: July 2013 A Two-Market Model • Agent-Mediated Electronic Commerce (AMEC) Workshop St. Paul, MN Latency Arbitrage, Market Fragmentation, and Efficiency: May 2013 A Two-Market Model
TEACHING EXPERIENCE	<p>Columbia University, School of Professional Studies New York, NY <i>Adjunct Associate Faculty</i> Aug. 2021 to Dec. 2021</p> <ul style="list-style-type: none"> • Python for Data Analysis (Spring 2023) • Financial Data Science and Machine Learning (Fall 2021) <p>The Princeton Review Ann Arbor, MI <i>GMAT Instructor / Private Tutor</i> July 2013 to Sept. 2015</p> <p>Art of Problem Solving Online School (Remote) <i>Grader, Java Programming & Math</i> April 2014 to March 2015</p> <p>UCLA Computer Science Department Los Angeles, CA <i>Teaching Assistant / Associate</i> Sept. 2009 to June 2011</p> <ul style="list-style-type: none"> • Fundamentals of Artificial Intelligence (Fall 2009, Winter 2010, Spring 2011) • Mathematical Modeling & Methods for Computer Science (Spring 2010) <p>UIUC College of Engineering Urbana, IL <i>Engineering Learning Assistant</i> Aug. 2007 to Oct. 2007</p>
ADVISING EXPERIENCE	<ul style="list-style-type: none"> • Lumiere Education (Remote) Mentoring high school students to produce independent research papers Dec. 2021 to present • U-M College of Literature, Science, and the Arts Ann Arbor, MI <i>Empirical Comparison of Three Market Making Strategies</i> June to Dec. 2013 (Senior Honors Thesis), Zhiyi Zhang • U-M Summer Undergraduate Research Experience Ann Arbor, MI <i>Latency Arbitrage and Market Fragmentation</i>, Dylan Hurd Summer 2013 • U-M Undergraduate Research Opportunity Program Ann Arbor, MI <i>Improving Experimental Work Flow for a High Frequency Trading Simulator</i>, Noelle Hansford Summer 2013 • U-M EECS 599 Directed Study Ann Arbor, MI <i>Background Trading Agents</i>, Ryan Roberts Winter 2013 • U-M EECS 599 Directed Study Ann Arbor, MI <i>Advanced Background Trading Agents</i>, Shiva Ghose Fall 2012 • U-M EECS 499 Directed Study Ann Arbor, MI <i>Simulating the Effects of High-Frequency Latency Arbitrage Agents on Markets</i>, Stephen Balaban Fall 2011
HONORS & AWARDS	<p>Graduate Awards and Scholarships</p> <ul style="list-style-type: none"> • U-M College of Engineering Distinguished Leadership Award 2016 <i>Conferred upon students of the College of Engineering who have demonstrated outstanding leadership & service to the College, University, & community</i> • U-M Rackham Predoctoral Fellowship 2015–2016 <i>Awarded to outstanding doctoral students actively working on dissertations that are unusually creative, ambitious, & risk-taking</i> • IFAAMAS Pragnesh Jay Modi Best Student Paper Award 2015

Selected from 127 full paper submissions in the AAMAS 2015 main track

- **U-M Margaret Ayers Host Award** 2015
Awarded for exceptional scholarly achievement, a sense of social responsibility, and an interest in the success of women in the academic community
- **U-M College of Engineering Marian Sarah Parker Prize** 2015
Presented to the outstanding woman graduate student who has demonstrated academic excellence, leadership, & outstanding contributions to the University
- **Microsoft College Puzzle Challenge** 2015
First Place at the University of Michigan
- **U-M College of Engineering Richard F. & Eleanor A. Towner Prize for Distinguished Academic Achievement** 2014
Presented to the outstanding graduate student in each degree program based on research, leadership, & academic performance (1 student selected for CSE)
- **STIET (NSF IGERT) Fellowship** 2011–2013
Multi-disciplinary doctoral fellowship program focused on “Socio-Technical Infrastructure for Electronic Transactions” & incentive-centered design
- **SWE Lockheed Martin Corporation Scholarship** 2013
- **SWE Booz Allen Hamilton Information Technology Scholarship** 2009, 2010
- **UCLA Graduate Fellowship** 2008–2009

Conference Attendance Scholarships and Grants

- Yahoo Scholarship (GHC 2015) 2015
- CRA-W Early Career Mentoring Workshop (FCRC 2015) 2015
- AAMAS 2015 Travel Award 2015
- Rackham Conference Travel Grant (AAMAS 2015) 2015
- ACM-W Scholarship (EC 2014) 2014
- Rackham Conference Travel Grant (AMEC XV) 2013
- Rackham Conference Travel Grant (ICTAI 2011) 2011
- Grace Hopper Celebration of Women in Computing Scholarship 2009

Undergraduate Awards and Scholarships

- Chancellor’s Scholar in Campus Honors Program 2004–2008
- James Scholar 2004–2008
- Intel Undergraduate Research Program Scholarship 2004–2008
- UTUC A. R. “Buck” Knight Award 2008
- Eta Kappa Nu Leadership Award 2008
- UTUC Senior 100 Honorary 2008
- UTUC Homecoming Court 2007
- UTUC Oakley Scholarship in Electrical & Computer Engineering 2006
- Honeywell Hometown Solutions Corporate Scholarship 2006
- UTUC International Engineering Scholarship 2005
- UTUC William & Elizabeth Ackerman Scholarship 2004
- National Merit Scholar 2004

SERVICE

Reviewing

- ACM International Conference on AI in Finance (ICAIF), *Program Committee*, 2020, 2021, 2022
- Workshop on Mining Data for financial applicationS (MIDAS), *Program Committee*, 2022
- Neural Information Processing Systems (NeurIPS) Workshop on Fair AI in Finance, *Program Committee*, 2020
- IEX Academic Research Conference (ARC), *Co-Chair*, 2019

Committees

- Grace Hopper Mentoring Circles Committee, 2021
- ACM-W Scholarships Committee, 2020–present
- Grace Hopper Scholarship Review Committee, 2018
- U-M Financial Affairs Advisory Committee, 2013–2014
- UCLA Student Fee Advisory Committee, 2009–2010
- UCLA John Wooden Center Board of Governors, 2008–2010

Volunteering & Outreach

- ACM International Conference on AI in Finance (ICAIF) Women in AI and Finance Workshop, *Breakout Session Lead*, 2020
- Data Science for All: Women’s Summit, *Speaker*, 2019, *Mentor*, 2020
- Rewriting the Code, *Mentor*, 2018–present
- U-M Explore Graduate Studies in Computer Science & Engineering Workshop Series, *Invited Panelist*, 2014, 2018
- U-M Ensemble of Computer Science & Engineering Ladies (ECSEL), *Founder & Co-Chair*, 2015–2016
- LeaderShape, *Cluster facilitator*, 2014
- 826michigan, *Volunteer*, 2013–2015
- Central High School, Mar Vista Gardens, Los Angeles, *Volunteer Computer Science Teacher*, 2010