

Lily Xu

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EDUCATION	Harvard University , Cambridge, MA PhD Candidate, School of Engineering and Applied Sciences Advised by Prof. Milind Tambe	2019 – present
	Dartmouth College , Hanover, NH A.B. with Honors in Computer Science, minor in Spanish <i>Magna cum laude</i>	2014 – 2018
PUBLICATIONS	Dual-Mandate Patrols: Multi-Armed Bandits for Green Security <i>AAAI-21: Thirty-Fifth AAAI Conference on Artificial Intelligence</i> Lily Xu, Elizabeth Bondi, Fei Fang, Andrew Perrault, Kai Wang, and Milind Tambe Best Paper Award Runner Up	
	Enhancing Poaching Predictions for Under-Resourced Wildlife Conservation Parks Using Remote Sensing Imagery <i>NeurIPS Workshop on Machine Learning for Development 2020</i> Rachel Guo, Lily Xu, Andrew Plumptre, Drew Cronin, Francis Okeke, and Milind Tambe	
	Game Theory on the Ground: The Effect of Increased Patrols on Detering Poachers <i>Working paper</i> <i>Appeared at Harvard CRCS Workshop on AI for Social Good 2020</i> Lily Xu, Andrew Perrault, Andrew Plumptre, Margaret Driciru, Fred Wanyama, Aggrey Rwetsiba, and Milind Tambe	
	A High-Performance Graph Model for Near-Optimal Payments for Ecosystem Services <i>Working paper</i> <i>Appeared at Mechanism Design for Social Good (MD4SG) Workshop 2020</i> Florian Berlinger*, Lily Xu*, Yiling Chen <i>*Equal contribution</i>	
	Stay Ahead of Poachers: Illegal Wildlife Poaching Prediction and Patrol Planning Under Uncertainty with Field Test Evaluations <i>ICDE-20: IEEE International Conference on Data Engineering 2020</i> Lily Xu*, Shahrzad Gholami*, Sara Mc Carthy, Bistra Dilkina, Andrew Plumptre, Milind Tambe, Rohit Singh, Mustapha Nsubuga, Joshua Mabonga, Margaret Driciru, Fred Wanyama, Aggrey Rwetsiba, Tom Okello, Eric Enyel <i>*Equal contribution</i>	
HONORS AND AWARDS	AAAI Best Paper Award Runner Up Certificate of Appreciation from the SMART Consortium Five Citations for Academic Excellence at Dartmouth College <i>Special distinction rarely awarded by faculty members “for meritorious characteristics not indicated adequately by academic grades.”</i> Computational Photography (Wojciech Jarosz, CS 89.15) Latin American Film (Silvia Spitta, Spanish 63.01)	2021 2018 2014 – 2018

	Computer Graphics (Emily Whiting, CS 77)	
	Object-Oriented Programming (Travis Peters, CS 10)	
	Introduction to Programming and Computation (Hany Farid, CS 1)	
	Adobe Women-In-Technology Scholarship – Honorable Mention	2017
	Rick Angulo World Experience Award	2016
	<i>For “intellectual openness, enthusiasm, and impressive academic performance”</i>	
	<i>following a study abroad program in Cusco, Peru. Award in \$1,500.</i>	
	James O. Freedman Presidential Scholar	2016
	Willis S. Fitch '17 Metropolitan Washington Scholarship	2015
	Bank of America’s Joe Martin Scholarship	2014
RESEARCH EXPERIENCE	Harvard University , Cambridge, MA	
	<i>Doctoral Research Assistant</i>	2019 – present
	Advised by Prof. Milind Tambe	
	University of Southern California , Los Angeles, CA	
	<i>Doctoral Research Assistant</i>	2018 – 2019
	Advised by Prof. Bistra Dilkina and Prof. Milind Tambe.	
	Dartmouth College , Hanover, NH	
	<i>Undergraduate Senior Thesis Researcher</i>	2017 – 2018
	Advised by Prof. Amro Farid	
	<i>Presidential Scholar Research Assistant</i>	2016 – 2017
	Advised by Prof. Emily Whiting and Prof. David Kotz	
WORK EXPERIENCE	Google , Seattle, WA	
	<i>Software Engineering Intern</i>	Summer 2017
	Dyn, Inc. , Hanover, NH	
	<i>Data Analytics Research Intern</i>	Spring 2016
TEACHING EXPERIENCE	<i>Guest Lecturer</i>	
	University of Michigan, SI 431: Algorithms and Society	Spring 2021
	University of Pittsburgh, CS 1699: AI for Good: Ethics and Implications	Spring 2021
	Harvard University, CS 182: Artificial Intelligence	Fall 2020
	Dartmouth College, CS 11: Foundations of Applied Computer Science	Spring 2018
	Harvard University	
	<i>Head Teaching Fellow</i>	
	CS 182: Artificial Intelligence	Fall 2020
	Dartmouth College	
	<i>Teaching Assistant, Department of Computer Science</i>	
	CS 31: Algorithms	Winter 2017
	CS 11: Foundations of Applied Computer Science	Spring 2018
	CS 10: Object-Oriented Programming	Spring 2016
	CS 10: Object-Oriented Programming	Spring 2015
	CS 1: Intro to Programming and Computation	Spring 2018
	CS 1: Intro to Programming and Computation	Fall 2017
	CS 1: Intro to Programming and Computation	Spring 2017
	CS 1: Intro to Programming and Computation	Winter 2016
	CS 1: Intro to Programming and Computation	Fall 2015

	<i>Teaching Assistant, Tuck School of Business</i> Tuck FWP: Fundamentals of Web Programming Tuck DSA: Data Structures and Analytics	Spring 2017 Spring 2017
STUDENTS MENTORED	Emilia Cabrera '21, Harvard College (co-mentored with Haipeng Chen) Rachel Guo '22, Harvard College <i>NCWIT Collegiate Award Finalist</i>	Fall 2020 – Summer 2020 –
PROFESSIONAL SERVICE	Program Organization Co-lead, MD4SG Community Engagement Co-organizer, MD4SG Working Group on Environment and Climate Co-organizer, Harvard CRCS Rising Stars Speaker Series Co-organizer, CompSust Open Graduate Seminar (COGS) Social co-chair, Fourth Workshop on MD4SG Lead organizer, Harvard CRCS Rising Stars Workshop Co-organizer, Computational Sustainability Doctoral Consortium	October 2020 – January 2020 – March 2021 Spring 2020 August 2020 March 2020 October 2019
	Program Committee <i>Conferences</i> AAAI Emerging Track on AI for Social Impact (AISI) AAAI Emerging Track on AI for Social Impact (AISI)	2021 2020
	<i>Workshops</i> AAMAS Workshop on Autonomous Agents for Social Good (AASG) IJCAI Workshop on AI for Social Good Resistance AI @ NeurIPS 4th Black in AI Workshop @ NeurIPS NeurIPS Workshop on Machine Learning for the Developing World (ML4D) Fourth Workshop on Mechanism Design for Social Good (MD4SG) Harvard CRCS Workshop on AI for Social Good KDD Workshop on Humanitarian Mapping	2021 2020 2020 2020 2020 2020 2020 2020
	Reviewer NeurIPS, <i>subreviewer</i> IJCAI Special Track on CompSust and Human Well-being, <i>subreviewer</i> COMPASS, <i>subreviewer</i> Bloomberg Data for Good Exchange, <i>subreviewer</i>	2020 2020 2019 2019
LEADERSHIP	Ledyard Canoe Club at Dartmouth, Secretary, Canoeing Leader <ul style="list-style-type: none"> Co-governed club functions for over 100 undergraduates. Managed club assets that include \$1M in endowments, a student-run rental business with annual revenues of \$50K, and boats and equipment valued at \$150K. Co-organized an Explorers Symposium featuring ten notable speakers, including Olympic racers and members of National Geographic-sponsored expeditions. Led a group of twenty-eight students on a nine-day, 220-mile canoe expedition. Voted by my peers to receive the Jay Evans '49 Award for service and commitment to the club. Fusion Dance Ensemble, Director <ul style="list-style-type: none"> Led a group of fourteen dancers. Choreographed, taught, and performed contemporary and hip-hop dances. Dartmouth Sophomore Trips, Co-director	2014 – 2018 2014 – 2018 2015 – 2016

- Planned the Sophomore Trips program for 130 undergraduates across 14 three-day outdoor trips throughout New Hampshire and Vermont.

Dartmouth First-Year Trips, Grant Crew Volunteer Summer 2015

- Served on a nine-person crew for a 21-day, round-the-clock commitment to assist with five-day outdoor orientation trips for 1,000 incoming students.

OUTREACH

Public Events

SXSW, Wildlife AI Panel March 2021
World Science Festival, Science and Storytime June 2019

Speaking

Harvard SEAS PhD Admitted Students Open House, *panelist* March 2021
Harvard SEAS Research Labs Open House November 2020
GirlsComputingLeague, AIInnovation Business Summit September 2020
IEEE Computer Society, Women in Computing, Kerala Chapter September 2020
Data Science Africa, Tutorial on MD4SG and the Environment July 2020
Ledyard Canoe Club, Inclusivity in the Outdoors July 2020
Dartmouth Women in Computer Science, *panelist* May 2020
Harvard SEAS Diversity, Inclusivity, and Belonging, *panelist* May 2020
Center for Initiatives in Jewish Education, high school student visit March 2020
L.A. Unified School District (LAUSD), African American Family Day May 2019
Zoo Magnet High School, College and Career Day November 2018

Mentoring

InTouch Peer Mentor, Harvard University 2020 –
Women in STEM Mentor, Harvard University 2019 –
Women in Computer Science, Dartmouth College 2017 – 2018

Volunteering

Graduate Council Outreach Committee, Harvard University 2020 –
A Guide to Your PhD, Harvard SEAS October 2020
Project Teach, Harvard University April 2020
Cambridge Public Schools STEAM It Up! October 2019
Hustle N' Code Hackathon, *technical lead* December 2018
Hustle N' Code is a Los Angeles hackathon for youth in public housing.
My team won first place, and the four students each received a laptop.

PRESS

Rethinking Economics NL, Disruptive Technologies series (to appear). April 2021
Mongabay, Where to patrol next: 'Netflix' of ranger AI serves up poaching predictions. November 2020
Harvard SEAS, Preventing Poaching. June 2020
BBC Sounds, How tech is tackling wildlife trafficking. June 2020
BBC World Service, Using technology to take on poachers. August 2019
USC Viterbi Magazine, AI is for Animals. April 2019

PERSONAL

Residential member, Los Angeles Eco Village 2018 – 2019