Lily Xu

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lily-x.github.io

EDUCATION	**Harvard University**, Cambridge, MA	2019 – present
	PhD Candidate, School of Engineering and Applied Sciences	
	Advised by Prof. Milind Tambe	
	Dartmouth College, Hanover, NH	2014 – 2018
	B.A. with Honors in Computer Science, minor in Spanish	
	GPA: 3.83 (Magna cum laude)	

PUBLICATIONS

Game Theory on the Ground: The Effect of Increased Patrols on Deterring Poachers
Working paper
Appeared at Harvard CRCS Workshop on AI for Social Good 2020
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
Working paper
Appeared at Mechanism Design for Social Good (MD4SG) Workshop 2020
Florian Berlinger*, **Lily Xu***, Yiling Chen
*Equal contribution

Dual-Mandate Patrols: Learning While Patrolling in Green Security Domains
In submission
Appeared at Harvard CRCS Workshop on AI for Social Good 2020
Lily Xu, Elizabeth Bondi, Fei Fang, Andrew Perrault, Kai Wang, and Milind Tambe

Stay Ahead of Poachers: Illegal Wildlife Poaching Prediction and Patrol Planning Under Uncertainty with Field Test Evaluations
IEEE International Conference on Data Engineering (ICDE) 2020
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
*Equal contribution

HONORS AND AWARDS	Certificate of Appreciation from the SMART Consortium	2018
	Five Citations for Academic Excellence at Dartmouth College	2014 – 2018

Special distinction rarely awarded by faculty members "for meritorious characteristics not indicated adequately by academic grades."

> Computational Photography (Jarosz, CS 89.15)
> Latin American Film (Spitta, Spanish 63.01)
> Computer Graphics (Whiting, CS 77)
> Object-Oriented Programming (Peters, CS 10)
> Introduction to Programming and Computation (Farid, CS 1)

Adobe Women-In-Technology Scholarship – Honorable Mention	2017
Rick Angulo World Experience Award	2016

For "intellectual openness, enthusiasm, and impressive academic performance" following a study abroad program in Cusco, Peru. Award in $1,500.

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 *Doctoral Research Assistant* Advised by Prof. Milind Tambe.	2019 – present
	University of Southern California, Los Angeles, CA *Doctoral Research Assistant* Advised by Prof. Bistra Dilkina and Prof. Milind Tambe.	2018 – 2019
	Dartmouth College, Hanover, NH *Undergraduate Senior Thesis Researcher* Advised by Prof. Amro Farid.	2017 – 2018
	Presidential Scholar Research Assistant Advised by Prof. Emily Whiting and Prof. David Kotz.	2016 – 2017
WORK EXPERIENCE	**Google**, Seattle, WA *Software Engineering Intern*	Summer 2017
	Dyn, Inc., Hanover, NH *Data Analytics Research Intern*	Spring 2016

TEACHING EXPERIENCE	**Harvard University** Head Teaching Fellow, CS 182: Artificial Intelligence	Fall 2020

Dartmouth College
Teaching assistant for 11 courses. Helped design assignments and course material for the first offering of CS 11 and delivered a guest lecture to 70 students.
- CS 1: Intro to Programming and Computation — Fall 2015, Winter 2016, Spring 2017, Fall 2017, Spring 2018
- CS 10: Object-Oriented Programming — Spring 2015, Spring 2016
- CS 11: Foundations of Applied Computer Science — Spring 2018
- CS 31: Algorithms — Winter 2017
- Tuck FWP: Fundamentals of Web Programming — Spring 2017
- Tuck DSA: Data Structures and Analytics — Spring 2017

STUDENTS MENTORED	Rachel Guo '22, Harvard College	June 2020 –

PROFESSIONAL SERVICE	**Program Organization**	
	Co-organizer, MD4SG Working Group on Environment and Climate	January 2020 –
	Co-organizer, CompSust Open Graduate Seminar (COGS)	January 2020 –
	Lead organizer, Harvard CRCS Workshop on AI for Social Impact	March 2020
	Co-organizer, Computational Sustainability Doctoral Consortium	October 2019

Program Committee
Conferences

AAAI Emerging Track on AI for Social Impact (AISI)	2020

Workshops

4th Workshop on Mechanism Design for Social Good (MD4SG)	2020
Harvard CRCS Workshop on AI for Social Good	2020
KDD Workshop on Humanitarian Mapping	2020

LEADERSHIP

Ledyard Canoe Club at Dartmouth, *Secretary, Canoeing Leader*   2014 – 2018
- 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 alumni, 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*   2014 – 2018
- Led a group of fourteen dancers. Choreographed, taught, and performed contemporary and hip-hop dances.

Dartmouth Sophomore Trips, *Co-director*   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 300 students in five-day outdoor orientation trips.

OUTREACH

Speaking

Inclusivity in the Outdoors, Ledyard Canoe Club	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
World Science Festival, Science and Storytime	June 2019
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 panelist and mentor, Dartmouth College	2017 – 2018

Volunteering

Graduate Council Outreach Committee, Harvard University	2020 –
Project Teach, Harvard University	April 2020
Presenter, Cambridge Public Schools STEAM It Up!	October 2019
Technical lead, Hustle N' Code hackathon	December 2018

    Hustle N' Code is a Los Angeles hackathon for youth in public housing developments. My team won first place, and the four students each received a laptop.

PRESS

Harvard SEAS, Preventing Poaching.	June 2020
USC Viterbi Magazine, AI is for Animals.	April 2019