

# Lily Xu

lily\_xu@g.harvard.edu  
lily-x.github.io

EDUCATION	<b>Harvard University</b> , Cambridge, MA PhD Student in Computer Science Advised by Prof. Milind Tambe GPA: 4.0	2018 – present
	<b>Dartmouth College</b> , Hanover, NH B.A. with Honors in Computer Science Minor in Spanish GPA: 3.83 (Magna cum laude)	2014 – 2018
PUBLICATIONS	<b>Stay Ahead of Poachers: Illegal Wildlife Poaching Prediction and Patrol Planning Under Uncertainty with Field Test Evaluations</b> <i>IEEE International Conference on Data Engineering (ICDE) 2020</i> (to appear) <b>Lily Xu*</b> , 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	Certificate of Appreciation from the SMART Consortium	2018
	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>	2014 – 2018
	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 <i>For “intellectual openness, enthusiasm, and impressive academic performance” following a study abroad program in Cusco, Peru. Award in \$2,000.</i>	2016
	James O. Freedman Presidential Scholar	2016
	Willis S. Fitch '17 Metropolitan Washington Scholarship	2015
	Bank of America's Joe Martin Scholarship	2014
	National Merit Scholar	2014
RESEARCH EXPERIENCE	<b>Harvard University</b> , Cambridge, MA <i>Doctoral Research Assistant</i>	2019 – present
	<ul style="list-style-type: none"><li>Part of the Center for Research on Computation and Society (CRCS) at Harvard.</li></ul>	
	<b>University of Southern California</b> , Los Angeles, CA <i>Doctoral Research Assistant</i>	2018 – 2019
	<ul style="list-style-type: none"><li>Working on the Protection Assistant for Wildlife Security (PAWS) to combat illegal wildlife poaching, in collaboration with the World Wide Fund for Nature (WWF). Using machine learning and game theory to build predictive models and plan patrols.</li></ul>	

**Dartmouth College**, Hanover, NH  
*Undergraduate Senior Thesis Researcher* 2017 – 2018

- Supervised by Prof. Amro Farid, designed a graphical model of the New England electric grid and performed statistical comparisons with a model produced with hetero-functional graph theory.

**Dartmouth College Department of Computer Science**, Hanover, NH  
*Presidential Scholar Research Assistant* 2016 – 2017

- Supervised by Prof. Emily Whiting, developed a digital reconstruction of the historic Moosilauke Ravine Lodge using photogrammetry. Produced an interactive, VR-compatible model.

## WORK EXPERIENCE

**Google**, Seattle, WA  
*Software Engineering Intern* Summer 2017

- Prototyped a highly demand feature that automates the scheduling and deletion of infrastructure deployment for the Google Cloud Deployment Manager team. Released work as an open-source project on Google's GitHub.

**Dyn, Inc.**, Hanover, NH  
*Data Analytics Research Intern* Spring 2016

- Supervised by Dr. Alin Popescu, developed a process to determine zones of statistical significance in large datasets to analyze latency between servers.

## TEACHING EXPERIENCE

Worked as a teaching assistant for 11 courses at Dartmouth College beginning in freshman spring. 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

## 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.
- 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 down the Connecticut River.
- Voted by my peers to receive the Jay Evans '49 Service Award for 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**, *Director* 2015 – 2016

- Planned the Sophomore Trips program for 130 undergraduates across 14 three-day outdoor trips throughout New Hampshire and Vermont including hiking, climbing, kayaking, and sailing.

**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 including whitewater kayaking, canoeing, and hiking.

**PROFESSIONAL SERVICE**

- Co-chair of the **Computational Sustainability Doctoral Consortium** (October 2019)

**OUTREACH**

- Presented *AI is for Animals* at the **World Science Festival** Science and Storytime event, attended by 100 elementary school students and parents. New York, NY. (June 2019)
- Hosted a workshop at the Los Angeles Unified School District (LAUSD) **African American Family Day** for students in grades 3–12 and their parents. (May 2019)
- Volunteered as a technical lead at **Hustle N' Code**, a Los Angeles hackathon for youth in public housing developments. My team won first place, and the four students each received a laptop. (December 2018)
- Speaker at the College and Career Day at **Zoo Magnet High School**, presenting *Computer Science for Conservation*. (November 2018)

**TECHNICAL SKILLS**

*Languages:* English, Spanish

*Programming languages:* Python, Java, C/C++, Javascript, MATLAB, R, Bash

*Software:* QGIS, Adobe Photoshop, Adobe InDesign