
PRIYA L. DONTI

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EDUCATION

Carnegie Mellon University

Ph.D. student in Computer Science and Engineering & Public Policy

Advisors: Zico Kolter and Inês Azevedo

Sept. 2016–*Present*

Pittsburgh, PA, USA

Harvey Mudd College

B.S. in Computer Science/Math, Emphasis in Environmental Analysis

Graduated with High Distinction, GPA: 3.93

Sept. 2011–May 2015

Claremont, CA, USA

HONORS AND AWARDS

Best Paper Honorable Mention at ICML 2019

Jun. 2019

Best Poster at the Power and Energy Conference at Illinois (PECI) 2019

Feb. 2019

Highlighted Paper Award at AI for Social Good workshop (NeurIPS 2018)

Dec. 2018

DOE Computational Science Graduate Fellowship (National)

Sept. 2017–*Present*

National Science Foundation Graduate Research Fellowship (National)

Sept. 2015–Aug. 2017

Thomas J. Watson Fellowship (National)

Jul. 2015–Aug. 2016

Don Chamberlain CS Research Award (HMC)

May 2015

Radley Prize in Humanities, Social Sciences, and the Arts (HMC)

May 2015

CRA Outstanding Undergraduate Finalist (National)

Dec. 2014

William and Wyllis Leonhard Merit Scholarship (HMC)

Oct. 2014

Udall Scholarship Honorable Mention (National)

Apr. 2014

Dean Chris Sundberg Leadership Prize (HMC)

May 2013

Jean and Joseph Platt Prize (HMC)

Sept. 2012

Harvey Mudd President's Scholarship (4 years)

Sept. 2011–May 2015

PUBLICATIONS

Tackling Climate Change with Machine Learning

Preprint

David Rolnick, **Priya L. Donti***, Lynn H. Kaack, Kelly Kochanski, Alexandre Lacoste, Kris Sankaran, Andrew Slavin Ross, Nikola Milojevic-Dupont, Natasha Jaques, Anna Waldman-Brown, Alexandra Luccioni, Tegan Maharaj, Evan D. Sherwin, S. Karthik Mukkavilli, Konrad P. Kording, Carla Gomes, Andrew Y. Ng, Demis Hassabis, John C. Platt, Felix Creutzig, Jennifer Chayes, Yoshua Bengio

**Co-editor of full paper, and sole author of Electricity Systems section.*

Link: <https://arxiv.org/abs/1906.05433>

Inverse Optimal Power Flow: Assessing the Vulnerability of Power Grid Data

Working paper

Priya L. Donti, Inês Lima Azevedo, J. Zico Kolter

Award: *Highlighted paper* at the AI for Social Good workshop at NeurIPS 2018

Award: *Best poster* at the Power and Energy Conference at Illinois (PECI) 2019

Abstract link: https://aiforsocialgood.github.io/2018/pdfs/track1/118_aisg_neurips2018.pdf

Matrix Completion for Low-Observability Voltage Estimation

Under review

Priya L. Donti, Andreas J. Schmitt, Andrey Bernstein, Yingchen Zhang

Preprint link: <https://arxiv.org/abs/1801.09799>

How Much Are We Saving after All? Characterizing the Effects of Commonly Varying Assumptions on Emissions and Damage Estimates in PJM

Environmental Science & Technology (2019)

Priya L. Donti, J. Zico Kolter, Inês Lima Azevedo
Link: <https://pubs.acs.org/doi/10.1021/acs.est.8b06586>

SATNet: Bridging deep learning and logical reasoning using a differentiable satisfiability solver

International Conference on Machine Learning (ICML) (2019)
Po-Wei Wang, **Priya L. Donti**, Bryan Wilder, and J. Zico Kolter
Award: Honorable mention at ICML 2019
Link: <https://arxiv.org/abs/1905.12149>

Task-based End-to-end Model Learning in Stochastic Optimization

Advances in Neural Information Processing Systems (NIPS) (2017)
Priya L. Donti, Brandon Amos, J. Zico Kolter
Link: <https://arxiv.org/abs/1703.04529>

Predicting the Quality of User Experiences to Improve Productivity and Wellness

Proceedings of the Twenty-Ninth AAAI Conference (Poster Abstract) (2015)
Priya L. Donti, Jacob Rosenbloom, Alex Gruver, James C. Boerkoel Jr. Link: <http://goo.gl/YAh3Cd>

Exploring Active and Passive Team-Based Coordination (Poster Abstract)

Proceedings of the AAAI 2014 Fall Symposium on AI for HRI (2014)
Priya L. Donti, James C. Boerkoel Jr.
Link: <http://goo.gl/kH2P9d>

WORKSHOPS, CONFERENCES, AND SEMINARS

Tackling Climate Change with Machine Learning

Workshop at *Advances in Neural Information Processing Systems (NeurIPS) 2019* (upcoming)
David Rolnick, **Priya Donti**, Lynn Kaack, Alexandre Lacoste, Tegan Maharaj, John Platt, Jennifer Chayes, Yoshua Bengio
Link: https://www.climatechange.ai/NeurIPS2019_workshop.html

CompSustNet Doctoral Consortium

Conference for the *Computational Sustainability Network* in October 2019 (upcoming)
Priya Donti, Lily Xu, Genevieve Flaspohler, Aaron Ferber, Sebastian Ament
Link: <https://www.compsust.net/compsust-2019/>

CompSust Open Graduate Seminar (COGS)

Virtual webinar (2018–Present)
Priya Donti, Sebastian Ament, Genevieve Flaspohler, Neil Gaikwad, Amrita Gupta, Neal Jean, Bryan Wilder, Kevin Winner
Link: <https://www.compsust.net/cogs.php>

Climate Change: How Can AI Help?

Workshop at the *International Conference on Machine Learning (ICML) 2019*
David Rolnick, Alexandre Lacoste, Tegan Maharaj, Jennifer Chayes, Yoshua Bengio, Karthik Mukkavilli, Narmada Balasooriya, Di Wu, **Priya Donti**, Lynn Kaack, Manvitha Ponnampati
Link: https://www.climatechange.ai/ICML2019_workshop.html

LEADERSHIP AND VOLUNTEERING

Climate Change AI

Co-Leader

Jun. 2019–Present

Global

- Starting and co-leading an organization to empower solutions that meaningfully address the climate crisis and are well-served by machine learning tools.

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- CMU Tech4Society** Jan. 2017–*Present*
Co-Founder and Project Leader Pittsburgh, PA, USA
- Partnering Carnegie Mellon students with local grassroots organizations to provide technical and data support for these organizations’ social causes.
- Engineers for a Sustainable World** July 2016–*Present*
New Chapter Development Director USA
- As part of the global leadership team, developing new student chapters across the United States to strengthen the ESW network.
- CMU Computer Science Department PhD Admissions Committee** Jan. 2019
AI Area Reader and Diversity Consultant Pittsburgh, PA, USA
- Reading and evaluating PhD applications for Computer Science Department admissions (with a focus on applications in AI).
 - Analyzing the diversity of the admissions process, and presenting recommendations to departmental leadership.
- Harvey Mudd Sustainability Committee** Oct. 2014–May 2015
Student Representative from ESW/MOSS Claremont, CA, USA
- Worked with Harvey Mudd’s administration to set goals for and provide oversight of Harvey Mudd College’s sustainability program.
- ESW/MOSS Environmental Club** Sept. 2011–May 2015
Co-President, 5C Sustainability Liaison Claremont, CA, USA
- Led the formation of a Sustainability Committee and Green Fund, creation of a 5C sustainability website, an energy competition, and a presentation to the CPUC about SCE’s rate restructuring.
- Harvey Mudd College Honor Board** Sept. 2011–May 2015
Honor Board Class Representative Claremont, CA, USA
- Participated in Honor Board hearings, training, and discussion sessions.
- Science Bus** Sept. 2012–May 2013
Co-President Claremont, CA, USA
- Worked with school administrators, teachers, and college students to create and teach weekly science lessons at 18 elementary school classrooms in Pomona, CA.

RELEVANT COURSEWORK

Graduate:

Machine learning: Advanced Intro. Machine Learning, Artificial Intelligence, Applied Data Analysis, Intermediate Statistics, Convex Optimization

Energy and Climate: Engineering & Economics of Electric Energy Systems, Seminar in Electricity Market Restructuring, Seminar in Low-Carbon Electric Power, Climate Change Mitigation (audit)

Policy: Theory & Practice in Policy Analysis, Quantitative Methods for Policy Analysis, Microeconomics

Undergraduate (summary): Technical and non-technical courses for major in Computer Science/Math and Emphasis in Environmental Analysis. A broad core curriculum covering all major technical fields, as well as an extensive non-technical breadth requirement. (Transcript available upon request.)

SKILLS

Programming Languages

Proficient: Python, MATLAB

Knowledgeable: R, SQL, Bash, C, C++, Objective-C, Java, Haskell, Scheme, Prolog, SQL, Bash

Deep Learning Frameworks Tools

PyTorch (proficient), TensorFlow (knowledgeable)

Git, SVN, L^AT_EX, Unix

EMPLOYMENT

Carnegie Mellon University

Ph.D. Student

Sept. 2016–*Present*

Pittsburgh, PA, USA

- Conducting dissertation research at the intersection of machine learning/deep learning, optimization, power system analysis, and energy policy.

National Grid ESO

Graduate Intern

Jun.–Jul. 2019

Wokingham, Berkshire, England

- Implemented a load forecasting algorithm at a granular (grid supply point) level.

National Renewable Energy Lab

Graduate Intern

May–Aug. 2018

Golden, CO, USA

- Proposed and implemented a distribution system state estimation technique based on low rank matrix completion augmented with noise-resilient power flow constraints.

Thomas J. Watson Fellowship

Watson Research Fellow

July 2015–Aug. 2016

Worldwide

- Interviewed actors working on Smart Grids and related areas in five different countries (Germany, India, South Korea, Japan, and Chile), as part of a year-long travel fellowship.
- Kept a project blog at <https://priyaswatson.wordpress.com>.

The Productivity and Wellness Pal (PaWPal)

Undergraduate Researcher

Jan. 2014–July 2015

Claremont, CA, USA

- Led studies and research in artificial intelligence to help students maximize their productivity and wellness using individualized recommendations and data visualizations.

Harvey Mudd Games Team

Game Tester and Developer

July–Aug. 2012

Claremont, CA, USA

- Created educational games for elementary and middle school students based on user testing and interactions with students and classroom teachers.

PotaVida, Inc.

Global Clinic Team Member

Sept. 2014–May 2015

Claremont, CA, USA

- Worked with three team members and the CEO of PotaVida, Inc. to enhance PotaVida's solar water disinfection product as part of Clinic, Harvey Mudd's year-long senior capstone project.

Harvey Mudd College Computer Science Department

Grader & Tutor

Sept. 2014–May 2015

Claremont, CA, USA

- Tutored students in Harvey Mudd's Artificial Intelligence and Algorithms courses.

Crowdy, Inc.

Lead Software Engineer

Sept. 2013–Aug. 2014

Claremont, CA, USA

- Developed the iOS app for Crowdy, a social networking platform that seeks to connect users through shared experiences.

Harvey Mudd College Writing Center

Writing Center Consultant

Sept. 2012–May 2015

Claremont, CA, USA

- Consulted student papers/presentations and running writing workshops at HMC and other schools.

Google

Engineering Intern

May–Aug. 2013

Mountain View, CA, USA

- Designed and developed a revamped experiment creation process for PACO, an Android experiential sampling tool.
- Set up PACO's testing architecture and optimized communication between the app and web server.