Victoria Dean

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Education

Carnegie Mellon University 2018-present
- Working towards Ph.D. in Robotics (likely graduation in 2023)
- Current coursework: Deep Reinforcement Learning (10-703), Math Fundamentals for Robotics (16-811)

Massachusetts Institute of Technology 2013-2017
- Bachelor of Science in Computer Science and Engineering
- Relevant Coursework: Advanced NLP (6.806) | Computer Vision (6.819) | Autonomous Vehicles (2.166) | ML for Healthcare (6.S897) Advanced Undergraduate Research (6.UAR) | Performance Engineering of Software Systems (6.172) | Introduction to Inference (6.008)

Teaching

- Lecturer and Co-chair for Intro to Deep Learning (6.S191) IAP 2017
- Student Lab Assistant for Intro to Electrical Engineering and Computer Science (6.01) Spring 2014
- Co-developed and taught new Code for Good course (6.S187), a course for students to develop software for nonprofits 2014-2017
- Developed and taught #HelloWorld, an MIT Society of Women Engineers effort to teach coding to middle school girls 2015-2016
- MIT Global Teaching Labs: taught computer science to 4th and 5th year students at technical school in Prato, Italy IAP 2016

Experience and Relevant Projects

Waymo, Machine Learning Research Resident 2017-2018
- Designed and deployed low-latency onboard text detection system
- Combined imitation learning with reinforcement learning for better trajectory generation

MIT Computer Vision Research Group **(Antonio Torralba lab)**, Cisco Undergraduate Research and Innovation Scholar 2015-2017
- Trained deep models to exploit underused signals present in videos, including object dynamics and audio

Deep Genomics, Research Intern 2016 Summer
- Designed a CNN model for predicting branch site selection in RNA splicing using TensorFlow
- Accepted to Women in ML (WiML) and selected for oral presentation at ML in Computation Biology (MLCB) at NIPS 2016

Counsyl, Software Engineering Intern 2015 Summer
- Worked with the computational biology and research teams on developing analysis pipeline for a new test
- Used statistics and signal processing to reduce sequencer and polymerase noise by 1000 fold

Google, Software Engineering Intern 2014 Summer
- Designed and implemented distributed image analysis system for finding coherent animated clips in YouTube videos (C++)

FIRST Robotics Castilleja Gatorbotics Team 1700, Programming Lead (2011-2013), Mentor (2014), Head Coach (2018) 2009-2014, 2018
- Developed PID controllers and image tracking to identify and automatically aim at basketball hoops (Java)

UC Santa Cruz Astronomy Research Internship **(Raja Guhathakurta lab)** 2011 & 2012 Summers
- Developed pattern matching software to search spectra for distant galaxies, wrote research paper and presented poster at AAS 2013

Tools

- Proficient: Python, Java, C, C++, TensorFlow; Familiar: MATLAB, Torch, Caffe, ROS

Publications

V. Dean, A. Delong, B.J. Frey. *Deep Learning for Branch Point Selection in RNA Splicing*. Selected for oral presentation at Machine Learning for Computational Biology workshop at NIPS 2016. Also a poster at Women in Machine Learning Workshop at NIPS 2016.

V. Dean, P. Guhathakurta, *et al. Search for High-Redshift Lyman-Alpha Emitters in the DEEP3 Galaxy Redshift Survey*. Poster presented at American Astronomical Society meeting 2013. (Abstract: http://adsabs.harvard.edu/abs/2013AAS...22114742D)

K. McCormick, A. Alvarez-Buylla, V. Dean, *et al. Semi-automated Search For Lyman-alpha And Other Emission Lines In The DEEP2 And DEEP3 Databases*. Poster presented at American Astronomical Society meeting 2012. (Abstract: http://adsabs.harvard.edu/abs/2012AAS...21934004M)

Honors and Awards

- Voted 2nd place presenter at NIPS Machine Learning for Computational Biology Workshop 2016
- Dropbox 1st place award at Stanford TreeHacks 2015
- Winner of MIT Education DesignShop 2014
- Intel Science Talent Search Semifinalist 2013 (one of 300)

Outside Interests

Experimental baking, swing dancing, rowing (NCAA DI MIT 2017-2018)