

Filipe de Avila Belbute-Peres

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Education

- **Carnegie Mellon University** Pittsburgh, PA
PhD Student in School of Computer Science Fall 2017 – Present
Advisor: Zico Kolter.
- **Columbia University (Columbia College)** New York, NY
Major: Computer Science. Minor: Psychology. Fall 2014 – May 2017
Overall GPA: 4.03 Major GPA: 4.15.
Junior Phi Beta Kappa. Jonathan Gross Prize recipient (highest academic achievement in class).

Publications

- **End-to-end differentiable physics for learning and control**
Filipe de Avila Belbute-Peres, Kevin A. Smith, Kelsey Allen, Joshua Tenenbaum, J. Zico Kolter
Advances in Neural Information Processing Systems (NeurIPS), 2018 (**Spotlight**)
- **A Modular Differentiable Rigid Body Physics Engine**
Filipe de Avila Belbute-Peres, J. Zico Kolter
Advances in Neural Information Processing Systems (NIPS) Deep RL Symposium, 2017
- **Thinking inside the box: Motion prediction in contained spaces uses simulation.**
Kevin A. Smith, Filipe de Avila Belbute-Peres, Edward Vul, Joshua Tenenbaum
CogSci Conference, 2017

Experience

- **Bosch Center for AI** Sunnyvale, CA
Machine Learning Research Intern May 2019 – August 2019
Developed a Python/PyTorch interface for the open-source multi-physics simulator SU2.
Worked on combining fluid dynamics models with graph deep learning methods for fast and generalizable fluid simulations (*work currently in progress towards publication*).
- **Facebook AI Research** New York, NY
Intern May 2017 – August 2017
Contributed language models for dialog tasks in the open-source dialog research platform ParlAI.
- **MIT, Joshua Tenenbaum Lab** Cambridge, MA
Research Assistant August 2016 – May 2017
Researched models of human physics intuition using probabilistic and deep learning approaches.
- **Goldman Sachs** New York, NY
Technology Analyst May 2016 – August 2016
Worked on Data Architecture team that develops Hadoop-based data cluster.
- **Carnegie Mellon University** Pittsburgh, PA
Research Assistant May 2015 – August 2015
Research assistant at the Center for the Neural Basis of Cognition with focus on neural network models.

Service

- **Reviewer:** NeurIPS 2019, ICML 2020.

Skills

- **Proficient:** Python, PyTorch. **Knowledgeable:** Tensorflow, C/C++, Java, MATLAB, R.