

# Reuben Feinman

Center for Neural Science, New York University  
reuben.feinman@nyu.edu • <http://www.cns.nyu.edu/~reuben>

## EDUCATION

**New York University**, New York, NY

Sep 2017 – Present

Ph.D., Neural Science

- Advisor: Brenden M. Lake
- Focus: Computation, perception & learning

**Brown University**, Providence, RI

Sep 2011 – May 2015

Sc.B. with Honors, Applied Mathematics

- Honors thesis: A Deep Belief Network Approach to Learning Depth from Optical Flow
- Thesis advisors: Thomas Serre & Stuart Geman
- GPA: 3.9 / 4.0

## HONORS & AWARDS

**Google PhD Fellowship in Computational Neuroscience**, Google

Sep 2018

Fellowships awarded annually to ~30 PhD students studying CS and related disciplines.

**Henry Mitchell McCracken Fellowship**, NYU GSAS

Sep 2017

Fellowships awarded annually to promising first-year PhD students in the GSAS.

**CTO Recognition Award**, Symantec Corporation

May 2016

Awarded by CTO Steve Trilling for significant contributions to the company's technologies.

**Sigma Xi Honor Society**, Brown Chapter Sigma Xi

May 2015

Awarded for strong academics and research achievement in applied science.

## PUBLICATIONS & PATENTS

### PUBLICATIONS

Feinman, R. and Lake, B.M. (2021). Learning task-general representations with generative neuro-symbolic modeling. *International Conference on Learning Representations (ICLR)*.

Feinman, R. and Lake, B.M. (2020). Generating new concepts with hybrid neuro-symbolic models. In *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*.

Feinman, R. and Lake, B.M. (2019). Learning a smooth kernel regularizer for convolutional neural networks. In *Proceedings of the 41st Annual Conference of the Cognitive Science Society*.

Feinman, R. and Lake, B.M. (2018). Learning inductive biases with simple neural networks. In *Proceedings of the 40th Annual Conference of the Cognitive Science Society*.

### PREPRINTS

Feinman, R. and Parthasarathy, N. (2020). A linear systems theory of normalizing flows. *arXiv preprint arXiv:1907.06496*.

Feinman, R., Curtin, R.R., Shintre, S., and Gardner, A.B. (2017). Detecting adversarial samples from artifacts. *arXiv preprint arXiv:1703.00410*.

Papernot, N., Goodfellow, I., Sheatsley, R., Feinman, R., and McDaniel, P. (2016). Cleverhans v1.0.0: an adversarial machine learning library. *arXiv preprint arXiv:1610.00768*.

### PATENTS

Shintre, S. and Feinman, R. (2020). Providing Adversarial Perturbations to Media. *US Patent No. 10,542,034*.

Feinman, R., Echauz, J., and Gardner, A.B. (2019). Systems and methods for trichotomous malware classification. *US Patent No. 10,366,233*.

Feinman, R. and Parikh, J. (2018). Systems and methods for detecting malware. *US Patent No. 10,133,865*.

## WORK EXPERIENCE

**Symantec Corporation**, Mountain View, CA

Jul 2015 – Jun 2017

Machine Learning Engineer, Center for Advanced Machine Learning

- Worked in a team of 10 PhDs while consulting regularly with Ruslan Salakhutdinov.
- Led an R&D effort that improved the detection rates of both known and unknown malicious software on 100+ million endpoints worldwide.
- Developed a machine learning model that helped prevent 22 million attempts of the global and infamous “WannaCry” ransomware attack.

<b>RESEARCH TALKS</b>	<b>Learning a Smooth Kernel Regularizer for CNNs</b> , NYU CCS lab meeting	Feb 2019
	<b>Learning Inductive Biases with Neural Networks</b> , NYU CILVR lab meeting	Feb 2018
	<b>Artifacts of Adversarial Examples</b> , NYU LCV meeting	Nov 2017
<b>PRESS COVERAGE</b>	<b>Security Week</b> , Symantec Adds Machine Learning to Endpoint Security Lineup	Sep 2016
	<b>eWeek</b> , Symantec Adds Deep Learning to Anti-Malware Tools to Detect Zero-Days	Jan 2016
<b>SKILLS</b>	Python, Jupyter, TensorFlow, PyTorch, Pyro, Docker, Git, MATLAB, $\text{\LaTeX}$ , Java, C	
<b>INTERESTS</b>	Running, skiing, scuba diving, tennis, fishing, music production	
<b>REFERENCES</b>	<i>Mentors and colleagues who have written recommendations for me:</i> <b>Dr. Brenden Lake</b> , Assistant Professor of Psychology and Data Science, New York University <b>Dr. Thomas Serre</b> , Associate Professor of Cognitive Linguistic & Psych. Sciences, Brown University <b>Dr. Stuart Geman</b> , James Manning Professor of Applied Mathematics, Brown University <b>Dr. Andrew Gardner</b> , Senior Technical Director of Machine Learning, Symantec Corporation <b>Dr. Nikolaos Vasiloglou</b> , Technical Director of Machine Learning, Symantec Corporation	