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. (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.

RESEARCH TALKS	**Learning a Smooth Kernel Regularizer for CNNs,** NYU CCS lab meeting	Feb 2019
	Learning Inductive Biases with Neural Networks, NYU CILVR lab meeting	Feb 2018

	Artifacts of Adversarial Examples, NYU LCV meeting	Nov 2017

PRESS COVERAGE
Security Week, Symantec Adds Machine Learning to Endpoint Security Lineup — Sep 2016
eWeek, Symantec Adds Deep Learning to Anti-Malware Tools to Detect Zero-Days — Jan 2016

SKILLS Python, Jupyter, TensorFlow, PyTorch, Pyro, Docker, Git, MATLAB, LaTeX, Java, C

INTERESTS Running, skiing, scuba diving, tennis, fishing, music production

REFERENCES *Mentors and colleagues who have written recommendations for me:*
Dr. Brenden Lake, Assistant Professor of Psychology and Data Science, New York University
Dr. Thomas Serre, Associate Professor of Cognitive Linguistic & Psych. Sciences, Brown University
Dr. Stuart Geman, James Manning Professor of Applied Mathematics, Brown University
Dr. Andrew Gardner, Senior Technical Director of Machine Learning, Symantec Corporation
Dr. Nikolaos Vasiloglou, Technical Director of Machine Learning, Symantec Corporation