www.djstrouse.com

DJ Strouse

Work Experience

Research Scientist — **Google DeepMind** — **Mar 2019 – present**
- Multi-agent reinforcement learning, multi-task reinforcement learning, deep learning for auction design

Research Intern — **Google DeepMind** — **Jun 2017 – Oct 2017**
- Variational information bottleneck, multi-task reinforcement learning

Machine Learning Intern — **Spotify** — **Jun 2016 – May 2017**
- Probabilistic models of musical taste, Bayesian hypothesis testing

Data Science Intern — **Zynga** — **Jun 2015 – Aug 2015**
- Supervised learning on imbalanced datasets

Education

PhD, Physics — **Princeton University** — **2012 – 2018**
- *Research*: information-theoretic regularization in supervised, unsupervised, and reinforcement learning
- *Advisors*: David J Schwab, William Bialek
- *Awards*: Hertz Fellowship, Department of Energy Computational Sciences Graduate Fellowship

MPhil, Information Engineering — **University of Cambridge** — **2011 – 2012**
- *Research*: neural network models for dendritic integration of synaptic inputs
- *Advisor*: Máté Lengyel
- *Awards*: Churchill Scholarship

BA, Physics and BS, Math — **University of Southern California** — **2006 – 2011**
- *Research*: quantum algorithms, quantum information theory, computational neuroscience
- *Advisors*: Bartlett Mel, Paolo Zanardi, Andrew Childs
- *Awards*: USC Presidential Scholarship, Order of the Laurel and the Palm

Select Publications[1]

- **DJ Strouse** & David Schwab. The information bottleneck and geometric clustering. *Neural Computation (NECO)*, 2019.
- Natasha Jaques, Edward Hughes, Angeliki Lazaridou, Caglar Gulcehre, Pedro Ortega, **DJ Strouse**, Joel Z. Leibo, & Nando de Freitas. Intrinsic Social Motivation via Causal Influence in Multi-Agent RL. *International Conference on Machine Learning (ICML), 2019.*
- Anirudh Goyal, Riashat Islam, **DJ Strouse**, Zafarali Ahmed, Maxime Chevalier-Boisvert, Doina Precup, Matt Botvinick, Hugo Larochelle, Sergey Levine, & Yoshua Bengio. InfoBot: Transfer and Exploration via the Information Bottleneck. *International Conference on Learning Representations (ICLR), 2019.*
- **DJ Strouse**, Max Kleiman-Weiner, Josh Tenenbaum, Matt Botvinick, & David Schwab. Learning to share and hide intentions using information regularization. *Neural Information Processing Systems (NIPS)*, 2018.
- **DJ Strouse** & David Schwab. The deterministic information bottleneck. *Neural Computation (NECO)*, 2017.

Skills and Service

- *Programming*: Python, TensorFlow, R
- *Technical skills*: reinforcement learning, information theory, deep learning, machine learning
- *Reviewer*: NeurIPS

[1] See www.djstrouse.com for latest project and publication information.