RYLAN SCHAEFFER

Skills

Languages
Python
R
Go
MATLAB
C/C++

Libraries
PyTorch
NumPy
Pandas
SciPy
HuggingFace
TensorFlow
Jax

DB & Querying
Presto
Hive
MySQL
Postgres
SQLite

OS
Linux
macOS
Windows

Neuroscience
DataJoint
SPM
Amazon MTurk
Gorilla

Contact

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Education

Stanford University **Sep 2021 - Present**
Doctor of Philosophy, Computer Science

Harvard University **Sep 2019 - Dec 2020**
Master of Science, Computational Science & Engineering (4.0 GPA)
Teaching Assistant: AM207 Bayesian Methods (Graduate), CS181 Machine Learning

University College London **Sep 2017 - Sep 2018**
Master of Research, Cognitive Neuroscience (Distinction = British 4.0 GPA)

University of California, Davis **Sep 2011 - Jun 2016**
Bachelors of Science: Computer Science Engineering & Computational Statistics
Outstanding Senior Award, Department of Computer Science and Engineering
Designed and taught 3 courses: Cryptocurrency Technologies, History of CS, Davis Hacks

Publications

Schaeffer, Du, Liu, Linderman, Fiete. Streaming Inference for Infinite Feature Models. Under Review @ *ICML 2022*.

Schaeffer, Liu, Du, Linderman, Fiete. Streaming Inference for Infinite Non-Stationary Clustering. Under Review @ *CoLLAs 2022*.

Schaeffer, ..., Fiete. No Free Lunch from Deep Learning in Neuroscience: A Case Study through Models of the Entorhinal-Hippocampal Circuit. Under Review @ *NeurIPS 2022*.

Schaeffer, Liu, Linderman, Fiete. Memory Engrams Perform Non-Parametric Latent State Associative Learning. In Preparation.

Schaeffer, Liu, Du, Linderman, Fiete. Streaming Inference for Infinite Non-Stationary Clustering. *ICLR 2022 Workshop: Agent Learning in Open-Endedness*.

Schaeffer. An Algorithmic Theory of Metacognition in Minds and Machines. *NeurIPS 2021 Workshop: Metacognition in the Age of AI*.

Schaeffer, Bordelon, Khona, Pan, Fiete. Efficient Online Inference for Nonparametric Mixture Models. *UAI 2021*.

Schaeffer, Khona, Meshulam, IBL, Fiete. Reverse-engineering Recurrent Neural Network solutions to a hierarchical inference task for mice. *NeurIPS 2020*.

Schaeffer, Shaham, Kreiman, Sompolinsky. Neural network model of amygdalar memory engram formation and function. *COSYNE 2021*.

Professional Experience

Stanford University **Sep 2021 - Present**
Graduate Student Researcher (Rotating)
Exploring research directions including pretrained representation distillation, sample-efficient large language models, and improved scene understanding.

Massachusetts Institute of Technology **Dec 2019 - Present**
Senior Research Associate & Graduate Student Researcher
Characterized how recurrent neural networks perform hierarchical inference (NeurIPS) and tested predictions in neural data (forthcoming). Published streaming inference algorithms for Bayesian nonparametric models (UAI, ICLR Workshop; under review: ICML, CoLLAs, NeurIPS).

Google DeepMind **May 2021 - Jul 2021**
Research Engineer Intern
Trained hierarchical RL agents on AndroidEnv environments using Acme, XManager, etc.

Uber **Oct 2018 - Sep 2019**
Data Scientist
Placed 3rd out of 217 teams in Uber's Machine Learning Hackathon. Increased accuracy of Uber's anomaly detection platform from 67% to 81%. Guided budget planning and efficiency efforts for Uber's data, storage and compute platforms using forecasting.