Jonathan Gordon

Machine Learning Research Scientist

+1 (650) 586-8038 | jongordon06@gmail.com | gordonjo.github.io | Publications | Gordonjo | Jonathan Gordon

Experience

OpenAI — *San Francisco, CA*

Research Team Lead — *December 2020 - PRESENT*

- **Research Team Lead (Long Term Memory team)**
  - Lead team of research scientists and engineers
  - Launched and lead multiple research projects focusing on retrieval and coding capabilities of LLMs
  - Designed and shipped several capabilities to ChatGPT
  - Recruited and mentored for both junior and senior RS/RE positions
- **Senior Research Scientist (Codegen)**
  - Initiated and lead several research projects focusing on LLMs for code
  - Helped take major projects to production (GPT-4 and ChatGPT)
  - Co-lead high impact projects such as "Iterative Debugging" and "LLMs for Programming Competitions"
- **Research Scientist (Open-Endedness)**
  - Working with Kenneth Stanley and Joel Lehman on Open-Ended learning processes for LLMs
  - Initiated and lead major components of the research agenda
  - Designed and experimented with novel algorithms for learning and post-training LLMs

Facebook AI Research — *Paris, FR*

Research Scientist (Summer Internship) — *Summer 2019*

- Working with Diane Bouchacourt and David Lopez-Paz on symmetries in language modelling.
- Publication: *Permutation Equivariant Models for Compositional Generalization in Language*

Microsoft Research — *Cambridge, MA*

Research Scientist (Summer Internship) — *Summer 2018*

- Working with Nicolo Fusi and the AutoML group on neural architecture search.
- Publication: *Probabilistic Neural Architecture Search*

University of Cambridge — *Cambridge, UK*

Teaching Assistant — *2017-2019*

- Supervision and teaching duties for
  - 3F8: Inference
  - Advanced Machine Learning Seminar

Education

Cambridge University — *Cambridge, UK*

Ph.D in Machine Learning — *December 2020*

- Research on deep probabilistic models and scalable approximate inference algorithms
- Thesis: *Advances in Probabilistic Meta-Learning and the Neural Process Family*

Cambridge University — *Cambridge, UK*

MPhil in Machine Learning — *August 2017*

- Graduated with Distinction
- Thesis: *Bayesian Semisupervised and Active Learning with Deep Generative Models*.

Ben-Gurion University of the Negev — *Be'er Sheva, Israel*

MSc. Applied Statistics — *August 2016*

- Graduated Magna cum laude
- Thesis: *A Machine Learning Analysis of ALS*.

Ben-Gurion University of the Negev — *Be'er Sheva, Israel*

BSc. Engineering — *August 2014*

- Graduated Magna cum laude
- Focusing on information engineering, data science, and applied statistics.

Selected Publications

The Gaussian Neural Process

Wessel Bruinsma, James Requeima, Andrew Y. K. Foong, Jonathan Gordon, and Richard E Turner

Third Symposium on Advances in Approximate Bayesian Inference (contributed talk) *2021*

Evolution Through Large Models

Joel Lehman, Jonathan Gordon, Shawn Jain, Kamal Ndousse, Cathy Yeh, Kenneth O. Stanley *2022*

Convolutional Conditional Neural Processes

Jonathan Gordon, Wessel P. Bruinsma, Andrew Y. K. Foong, James Requeima, Yann Dubois, and Richard E. Turner

International Conference on Learning Representations (Oral presentation) *2020*

Permutation equivariant models for compositional generalization in language

Jonathan Gordon, David Lopez-Paz, Marco Baroni, and Diane Bouchacourt

International Conference on Learning Representations *2020*

Predictive complexity priors

Eric Nalisnick, Jonathan Gordon, and Jos´e Miguel Herna´ndez-Lobato

International Conference on Artificial Intelligence and Statistics *2021*

TaskNorm: rethinking batch normalization for meta-learning

John Bronskill, Jonathan Gordon, James Requeima, Sebastian Nowozin, and Richard Turner

International Conference on Machine Learning *2020*

Fast and flexible multi-task classification using Conditional Neural Adaptive Processes

James Requeima, Jonathan Gordon, John Bronskill, Sebastian Nowozin, and Richard E. Turner

Advances in Neural Information Processing Systems 32 (Spotlight) *2019*

Bayesian batch active learning as sparse subset approximation

Robert Pinsler, Jonathan Gordon, Eric Nalisnick, and Jos´e Miguel Hern´andez- Lobato

Advances in Neural Information Processing Systems 32 *2019*

Meta-learning probabilistic inference for prediction

Jonathan Gordon, John Bronskill, Matthias Bauer, Sebastian Nowozin, and Richard Turner

International Conference on Learning Representations *2019*

Co-Authored Academic Software

The Neural Process Family

- A tutorial and unified codebase for Neural Processes in Python (PyTorch
- https://yanndubs.github.io/Neural-Process-Family

NeuralProcesses.jl

- Compositional Neural Processes in Julia
- https://github.com/wesselb/NeuralProcesses.jl

ConvCNP

- Convolutional Conditional Neural Processes in PyTorch
- https://github.com/cambridge-mlg/convcnp

CNAPs

- CNAPs and TaskNorm for few-shot classification in PyTorch
- https://github.com/cambridge-mlg/cnaps