Joseph L. Marino

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Education

California Institute of Technology (Caltech) 2014 - 2021
Ph.D. in Computation & Neural Systems
Pasadena, CA

University of Minnesota, Twin Cities 2010 - 2014
B.S. in Physics, Minor in Computer Science High Distinction
Minneapolis, MN

Work Experience

DeepMind Research Scientist
London, UK October 2021 - Present

Disney Research R&D Lab Associate (Intern)
Pittsburgh, PA March 2017 - June 2017

Preprints

Insights from Generative Modeling for Neural Video Compression 2021
Ruihan Yang, Yibo Yang, **Joseph Marino**, Stephan Mandt
arXiv: 2107.13136

Beyond Target Networks: Improving Deep Q-Learning with FR 2021
Alexandre Piché, **Joseph Marino**, Gian Maria Marconi, Chris Pal, Mohammad Emtiyaz Khan
arXiv: 2106.02613

Iterative Amortized Policy Optimization 2020
Joseph Marino, Alexandre Piché, Alessandro Davide Ialongo, Yisong Yue
arXiv: 2010.10670

Conference Publications

Hierarchical Autoregressive Modeling for Neural Video Compression 2021
Ruihan Yang, Yibo Yang, **Joseph Marino**, Stephan Mandt
International Conference on Learning Representations (ICLR)

VAEs with Jointly Optimized Latent Dependency Structure 2019
Jiawei He, Yu Gong, **Joseph Marino**, Greg Mori, Andreas Lehrmann
International Conference on Learning Representations (ICLR)

A General Method for Amortizing Variational Filtering 2018
Joseph Marino, Milan Cvitkovic, Yisong Yue
Neural Information Processing Systems (NeurIPS)

Probabilistic Video Generation using Holistic Attribute Control 2018
Jiawei He, Andreas Lehrmann, **Joseph Marino**, Greg Mori, Leonid Sigal
European Conference on Computer Vision (ECCV)

Iterative Amortized Inference 2018
Joseph Marino, Yisong Yue, Stephan Mandt
International Conference on Machine Learning (ICML)

Journal Publications

Predictive Coding, Variational Autoencoders, and Biological Connections 2021
Joseph Marino
Neural Computation

Selected Workshop Publications

Scale Space Flow with Autoregressive Priors 2021
Ruihan Yang, Yibo Yang, **Joseph Marino**, Stephan Mandt
ICLR 2021 Workshop on Neural Compression

Sequential Autoregressive Flow-Based Policies 2020
Alex Guerra, **Joseph Marino**
ICML INNF Workshop

Improving Sequential Latent Variable Models with Autoregressive Flows 2019
Joseph Marino, Lei Chen, Jiawei He, Stephan Mandt
Advances in Approximate Bayesian Inference (AABI)

On the Design of Variational RL Algorithms 2019
Joseph Marino, Alexandre Piché, Yisong Yue
NeurIPS Deep Reinforcement Learning Workshop

An Inference Perspective on Model-Based Reinforcement Learning 2019
Joseph Marino, Yisong Yue
ICML Workshop on Generative Modeling & Model-Based Reasoning

Thesis

Learned Feedback & Feedfoward Perception & Control 2021
Joseph Marino
Ph.D. Thesis

Teaching

CNS 187 - Neural Computation (Teaching Assistant, Guest Lecturer) 2015 – 2016
Lectures: Convolutional Neural Networks, Biological Inspiration

CS 155 - Machine Learning & Data Mining (Guest Lecturer) 2017 – 2020
Lectures: Intro. to Deep Learning, CNNs & RNNs, Deep Generative Models

Theory of Biological Computation (Guest Lecturer) 2018
Lectures: Predictive Coding

CS 159 - Special Topics in Machine Learning (Teaching Assistant, Lecturer) 2019 – 2021
Lectures: Intro. to Deep Generative Models, Latent Variable Models, Amortized Optimization, Model-Based RL

CS 259 - [@ UC Irvine] Deep Generative Models (Guest Lecturer) 2019 – 2020
Lectures: Deep Sequential Latent Variable Models

Relevant Coursework

Machine Learning: Introduction to Data Mining, Mathematical Modeling, Learning Systems, Neural Computation, Machine Learning and Data Mining, Advanced Topics in Machine Learning, CIFAR Deep Learning/Reinforcement Learning Summer School 2016 & 2017

Neuroscience: Introduction to Neuroscience, Introduction to Computation and Neural Systems, Brain Circuits, Topics in Systems Neuroscience, Introduction to Vision, Principles of Neuroscience, Theory of Biological Computation

Reviewing

ICLR, NeurIPS, ICML, CVPR, ICCV, ECCV

Awards

NSF GRFP Honorable Mention 2016
Kunzel Fellowship, Caltech 2014 - 2017
Dean's List, University of Minnesota 2010 - 2014
Summer Undergraduate Research Fellowship, Caltech 2013
Eagle Scout Award, Boy Scouts of America 2010