Alex Lewandowski

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Papers & Preprints

Batch and Sequential Policy Optimization with Doubly Robust Objectives

A. Lewandowski, D. Schuurmans   *Submitted*

Batch Normalized Deep Kernel Learning for Weight Uncertainty

A. Lewandowski   *12/2017*

» Second workshop on Bayesian Deep Learning (NIPS 2017)

Projects

Hierarchical BiGAN using Wasserstein Distance and the Concrete Distribution

Topics in Deep Learning with
Prof. Schuurmans   *1/2017 – 4/2017*

» Derived a Wasserstein formulation of bidirectional GANs and investigated hierarchical and discrete extensions.

Structured Adversarial Inference and Learning

Probabilistic Graphical Models
with Prof. Greiner   *1/2017 – 4/2017*

» Proposed and implemented a method of inference in graphical models using adversarial networks.

Completing Tensors with Indian Buffet Processes

Introduction to Machine
Learning with Prof. Greiner   *9/2016 – 12/2016*

» Extended an MCMC algorithm to estimate missing values in tensors using an Indian Buffet Process prior.

Exchange Rate Duration Under a Markov-Switching Multifractal: A GMM Approach

Honours Essay Supervised by
Prof. Xu   *1/2016 – 4/2016*

» Derived a Generalized Method of Moments for the Markov-Switching Multifractal duration model.

Education

Ph.D. in Computing Science

University of Alberta   *01/2019 – Present*

» Specialization: Statistical Machine Learning
» Supervisor: Dale Schuurmans

M.Sc. in Statistics

University of Alberta   *09/2016 – 07/2018*

» Specialization: Statistical Machine Learning
» Supervisors: Ivor Cribben & Rohana Karunamuni
» Thesis: Recurrent and Bayesian Kernel Learning for Small Data with Applications to Neuroimaging

Honours Bachelor in Mathematics

University of Waterloo   *09/2012 – 09/2016*

» Major: Mathematical Economics

Research Interests

Reinforcement Learning	Exploration, Off-policy learning
Probabilistic methods	Approximate inference

Work Experience

Teaching Assistant, Department of Computer Science

University of Alberta   *08/2018 – Present*

» Organize discussion groups and worksheets for new course based on the reinforcement learning MOOC.
» Provide guidance on projects and group assignments for foundations in information retrieval.

Research Assistant, Department of Computer Science

University of Alberta   *08/2018 – Present*

» Supervisor: Dale Schuurmans
» Developing methods that bridge the gap between online and batch

Teaching Assistant, Department of Mathematical and Statistical Sciences

University of Alberta   *09/2016 – 04/2018*

» Lead help sessions in Introduction to Applied Statistics, assist with Statistics I/II, Applied Regression Analysis and Time Series Analysis.
» Provide one on one assistance with assignments for first and second year classes at the Decima Robinson Support Centre.

Research Assistant, Department of Mathematical and Statistical Sciences

University of Alberta   *05/2017 – 07/2018*

» Supervisor: Ivor Cribben
» Implemented various Gaussian process and deep learning methods to classify patients based on fMRI data using TensorFlow.
» Developed stochastic variational methods for recurrent neural network parameterized kernels in Gaussian process classification.

Honors & Awards

Josephine Mitchell Scholarship
University of Alberta   2018

Profiling Alberta's Graduate Students Award
University of Alberta   2017

Josephine Mitchell Scholarship
University of Alberta   2017

Queen Elizabeth II Graduate Scholarship
University of Alberta   2016

Term Dean's Honour List
University of Waterloo   2015

President's Scholarship
University of Waterloo   2012