

Lars Heinrich Hertel

RESEARCH EXPERIENCE

JULY 2016 - PRESENT

University of California, Irvine

Institute of Genomics and Bioinformatics

Working on convolutional and recurrent neural networks for event reconstruction in the neutrino oscillation experiment NOvA. The developed models improve efficiency and purity metrics on current state-of-the-art methods. Advisor: Prof Pierre Baldi.

JULY 2015 - SEPTEMBER 2015

Machine Learning Intern, Mountain View

Honda Research Institute

Applied convolutional neural networks to pedestrian detection. Performance was measured on Caltech Pedestrian dataset and a proprietary pedestrian and bicycle dataset. Advisor: Dr Bernd Heisele, Computer vision group.

SEPTEMBER 2014 - DECEMBER 2016

University of California, Irvine

Datalab

Developed Bayesian optimization framework for hyperparameter tuning. Tested algorithm on Branin-Hoo function and MNIST logistic regression. Outperformed default settings on the latter. Advisor: Prof Padhraic Smyth.

JUNE 2014 - SEPTEMBER 2014

Imperial College London

Masters Thesis

Developed neural network based anatomical brain segmentation algorithm. Dice coefficient was compared to publications of MRI segmentation algorithms. Advisor: Prof Giovanni Montana. Grade: A.

DECEMBER 2011 - MARCH 2012

Queen Mary, University of London

Undergraduate Thesis

Completed Financial Time Series Analysis Third Year Project, analysing share behaviour and volatility in the stock market through development of statistical time series models in R, in order to determine application of appropriate correlation models. Advisor: Dr Alex Martin. Grade: A

PUBLICATIONS

- NIPS 2016 **Approximate Inference for Deep Latent Gaussian Mixtures**
Eric Nalisnick, Lars Hertel, and Padhraic Smyth
Bayesian Deep Learning, Workshop

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EDUCATION

- 2014 – 19 **PhD, Statistics**
University of California, Irvine
Completed 1st and 2nd year qualification exams for PhD curriculum
- 2013 – 14 **Master of Science, Statistics**
Imperial College, London
Recognized for best poster presentation
- 2009 – 12 **Bachelor of Science, Physics**
Queen Mary University, London
First Class Honours
- 2000 – 08 **Allgemeine Hochschulreife**
Wullenweber Gymnasium
Bergneustadt, Germany
Prize for excellence in physics

WORK EXPERIENCE

- 2014 – 16 **University of California, Irvine**
Teaching Assistant in Statistics at undergraduate and graduate level. Prepare and lead discussions. Grader.
- 2012 – 14 **Holland Park Tuition, Greater London Tutors, IVY Tutors, London, UK**
Private Tutor in Physics and Mathematics.
- 2008 – 09 **Greenwich Volcare, London, UK**
Volunteer providing care for the elderly and disabled adults
- 2006 **Connection.fm, London, UK**
Sound Engineer: setting up of radio show studio and mixing presentation with music and advertising.
- 2006 **SUMO GmbH, Cologne, Germany**
Training in HTML and CSS and assisting with development of client web page layouts.

SOFTWARE SKILLS

PREFERRED Python