Gavin Gray

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PhD Neuroinformatics, Edinburgh University - 2014 to present

Supervised by Amos Storkey and D K Arvind, as part of the Bayeswatch group, my project is focused on resource efficiency and architecture search in machine learning. My research interests are stochastic variational methods, Bayesian deep learning, network compression, probabilistic programming, Bayesian optimisation and open science. Recent publications include:

- "Moonshine: Distilling with Cheap Convolutions" at NIPS 2018
- "Resource-Efficient Feature Gathering at Test Time", accepted at Reliable Machine Learning in the Wild, NIPS 2016.

Academic Code

In the process of my PhD I have replicated the work of other papers in the field, such as "Variational Dropout and the Local Reparameterization Trick", "Hyperband: A Novel Bandit-Based Approach to Hyperparameter Optimization" and "The Shattered Gradients Problem". A more complete list can be found here and my GitHub profile is here. I've also posted reviews of papers on Short Science.

I'm proficient in: Python, C, Verilog, Matlab, Tensorflow, Theano, PyTorch, Lasagne, Bash scripting and Linux.

Teaching Support

I developed a dockerised JupyterHub deployment for the Data, Design and Society course to provide students with a fully configured web coding environment.

Also, I marked and tutored courses on machine learning, probabilistic modeling and system design.

Summer Schools

During the PhD, I attended the 2015 Gaussian Process Summer School, UK, and was selected to attend the 2016 Machine Learning Summer School, Peru.

Kaggle Competitions

I competed in the AES Seizure Prediction Challenge (16th/504) and the National Data Science Bowl (57th/1049) in the team Neuroglycerin. The code written for both competitions is available: hail-seizure and neukrill-net.

MRes Neuroinformatics, Edinburgh University - 2013 to 2014

This programme was designed as a precursor to a three year PhD project at the Doctoral Training Centre in Neuroinformatics and Computational Neuroscience, providing background in neuroscience and machine learning.

Master's Project - "Weighting Protein-Protein Interaction Networks"

This was a biological data mining project as part of the SynSYS collaboration to investigate synaptic protein-protein interactions supervised by Douglas Armstrong.

MEng Electrical Engineering and Electronics, Edinburgh University - 2008 to 2013

Graduated in 2013 - **First class with honours**.

Also included a 6 month internship at Broadcom Corporation working on analog VLSI as part of my Master's project supervised by Robert Henderson.

References

PhD Supervisors:

Amos Storkey
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D K Arvind
Chair of Distributed Wireless Computation at School of Informatics, University of Edinburgh
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