Linus Ericsson

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PUBLICATIONS

Region Proposal Network Pre-Training Helps Label-Efficient Object Detection
Ericsson L., Dong N., Yang Y., Leonardis A. and McDonagh, S.,
In Self-Supervised Learning - Theory and Practice, Workshop at NeurIPS, 2022, arXiv:2211.09022

Why Do Self-Supervised Models Transfer?
On the Impact of Invariance on Downstream Tasks
Ericsson L., Gouk H. and Hospedales, T. M.,
In BMVC, 2022, arXiv:2111.11398

How Well Do Self-Supervised Models Transfer?
Ericsson L., Gouk H. and Hospedales, T. M.,
In CVPR, 2021, arXiv:2011.13377

Self-Supervised Learning: Introduction, Advances and Challenges
Ericsson L., Gouk H., Loy, C.C. and Hospedales, T. M.,
IEEE Signal Processing Magazine, arxiv :2110.09327

EDUCATION

University of Edinburgh **Edinburgh, UK**
PhD in the Centre for Doctoral Training in Data Science *2019 - present*

My research is on **unsupervised representation learning** by learning from underlying structure in data rather than manual annotation. I am also interested in how traditional supervised learning can benefit from self-supervised methods, as the advantage of learning from labels diminishes.
Supervisor: Prof. Timothy M. Hospedales

University of Edinburgh **Edinburgh, UK**
MSc(R) Data Science, Merit (68%) *2018 - 2019*

MSc Project: ARCTIC: A Fast Online Algorithm for Learning Additional Rewards in RL - We develop an RL meta-learning algorithm which alleviates the need for designing manual rewards, and guides an agent toward a more domain-generalisable policy.
Supervisor: Prof. Timothy M. Hospedales

Durham University **Durham, UK**
MEng in Computer Science, First Class Honours (80%) *2017 - 2018*

MEng Project: Evaluating cross-domain and multi-task performance of Deep Reinforcement Learning across the Atari benchmark (Presented at the Rising Stars Research Symposium 2018)
Supervisor: Prof. Magnus Bordewich

Durham University **Durham, UK**

BSc in Computer Science, First Class Honours (82%) *2014 - 2017*

BSc Project: Composing Live Music with Neural Networks and Genetic Algorithms (Bronze Award for Best Poster for undergraduate project)
Supervisor: Dr Steven Bradley

WORK

Samsung AI Center **Cambridge, UK**

Research Scientist Intern *Sept 2022 - Feb 2023*

Working as a research scientist intern with Timothy Hospedales and Da Li for 6 months. The project centres around unsupervised domain adaptation, with a special focus on providing reliable model selection and hyperparameter optimization in the absence of target domain labels.
Supervisor: Prof. Timothy M. Hospedales

Huawei Noah's Ark Lab **London, UK**

Research Scientist Intern *Oct 2021 - Mar 2022*

Working as a research scientist intern with Steven McDonagh and Yongxin Yang for 4 months. The project centres around large-scale object detection for autonomous driving, with a special focus on improving self-supervised pre-training on autonomous driving data.
Supervisor: Dr Steven McDonagh

Teaching Experience **Edinburgh & Durham, UK**

Tutoring, demonstrating and marking *2017 - present*

I have undertaken tutoring, demonstrating and marking roles while at both Edinburgh and Durham University. This has included teaching undergraduate and postgraduate students in the following courses:

- Introductory Applied Machine Learning
- Introduction to Programming (in Python/Java)
- Computer Programming for Speech and Language Processing
- Theory of Computation.

Computer Vision Research Group **Durham, UK**

Research internship at Durham University *2017*

I worked with Professor Toby Breckon over a summer, developing dense stereo vision and visual odometry for robotics. I also had the chance to collaborate with the *Centre for Vision and Visual Cognition* on a project involving Brain-Computer Interfaces as an application of Deep Learning.
Supervisor: Prof. Toby Breckon
