

PAUL MARTIN

The University of Edinburgh • MInf Informatics

I am an Informatics student at The University of Edinburgh, passionate about improving the efficiency of deep learning models to enable their further research and application by individuals and academia. With a strong academic background in this field, I actively contribute to foundational deep learning research for natural language processing.

CONTACT

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WEBSITE

PaulsBitsAndBytes.com

AWARDS

80% thesis mark
77% degree average

RESEARCH INTERESTS

Foundational Deep Learning
Natural Language Processing
Computational Neuroscience
Comput' Molecular Biology

OTHER INTERESTS

Photography
Long-Distance Running
Hiking in the Scottish
Highlands

LANGUAGES

English (native)
German (native)
Spanish (learning)

EDUCATION

MInf Informatics

University of Edinburgh (2019 - 2024)

- Specializing in Deep Learning and conducting research on distributed optimisation of neural networks for my Master's Thesis
- Achieved an outstanding 80% in my Bachelor's Thesis and 77% overall

Exchange Year

University of Hong Kong (2021 - 2022)

- Selected for my first choice destination out of 800+ applicants.
- Relevant topics: Machine Learning, AI Project, Computer Vision, Big data

EXPERIENCE

Teaching Assistant for Machine Learning

The University of Edinburgh (AY 2023/24)

- Guiding students in Machine Learning through in-person and online assistance, providing clarifications on theory and applications.

Research Assistant Intern

With Kartic Subr, The University of Edinburgh (Summer 2023)

- Led research on using Graph Neural Networks for spectral coarsening of 3D meshes.
- Trained models on approximate gradients from physics simulations.

Tutor for Machine Learning

The University of Edinburgh (AY 2022/23)

- Led a series of workshops for a Machine Learning course, supporting 3rd and 4th-year informatics students in their studies of ML techniques.

ML Intern for Natural Language Processing

Migrasia Global Solutions (Sep - Dec 2021)

- Developed NLP tools to combat forced labour among refugees and migrant workers in Hong Kong.
- Engineered a multilingual sentiment analysis tool and topic classifier for Facebook messages, and investigated biases in Hong Kong's judiciary by processing judgements at scale.

RESEARCH PROJECTS

[For more research projects, visit my website](#)

Master's Thesis: Distributed Optimisation of Deep Neural Networks (Ongoing)

Researching optimisers for the distributed training of deep neural networks, contributing to the field of scalable, efficient neural network training.

Spectral Coarsening using GNNs (Ongoing)

Explored the application of Graph Neural Networks to accelerate parameter set determination for 3D meshes, enhancing subsequent physics simulations' efficiency.

Bachelor's Thesis: Cross-Architecture Knowledge Distillation for Automatic Speech Recognition (2022/23)

Achieved an **80% mark** developing knowledge distillation techniques for models with mismatched output dimensions, providing insights into effective model compression strategies and architecture trade-offs.

Review of a Biologically Inspired Neural Network to Model PTSD and Eye Movement Desensitisation Reprocessing Therapy (Apr 2023)

Coursework in Computational Cognitive Neuroscience, taught by Peggy Seriès. Achieved an 80% mark.