

Dylan M. Sandfeller

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EDUCATION

OXFORD, UNIVERSITY OF

Master of Science, Advanced Computer Science

Received Distinction on Thesis | Received Merit Overall

Oxford, UK

Aug. 2022

MCGILL UNIVERSITY

Bachelor of Science, Honors Computer Science

Minor in Mathematics | Received Distinction Overall (GPA: 3.86/4.00)

Montréal, QC

Dec. 2020

OBJECTIVES AND RESEARCH INTERESTS

I am applying to graduate school to pursue a career in networks and machine learning.

My research interests include: **graph neural networks, network science, deep learning, big data, social networks, wireless networks**

RESEARCH AND TEACHING EXPERIENCE

UNIVERSITY OF OXFORD (Researcher), Oxford, UK

Jan. 2022 – Aug. 2022

- Supervised by Prof. Ismail Ceylan on a master's thesis project concerning the relational inductive bias of graph neural networks
- Collaborated with other Oxford computer science researchers and conducted experiments on Oxford's ARC computing cluster
- Received a Distinction for my master's thesis

MILA (Research Assistant), Montréal, QC

May 2020 – May 2021

- Worked with Prof. William Hamilton at the Montréal Institute of Learning Algorithms to develop novel graph neural network frameworks using PyTorch and PyTorch Geometric
- Built and ran high-intensity graph learning models on clustered computer nodes

KOUZHU EDUCATIONAL TECHNOLOGY (Lecturer), Nanjing, China

Jun. 2017 – Aug. 2017

- Taught classes in China on robotic design and the principles of good software development
- Built and programmed working robots with STEM students as a teaching tool
- Received excellent official reviews from students and other participants

ROBOHACKS (Mentor), Montréal, QC

Mar. 2017

- Guided participants from top international universities through intensive hackathon projects
- Instructed students who eventually won the hackathon with top marks
- Assisted fellow mentors when they were not able to aid their assigned groups

LEADERSHIP AND INDUSTRY EXPERIENCE

KUMO AI (Resident Applied ML Engineer), Mountain View, CA

Sep. 2022 – Present

- Ran high-intensity graph neural network models on large customer datasets to predict future business metrics and give insight to clients
- Improved model efficiency by 20% by changing network architecture
- Solved high-priority bugs blocking the product from deploying effective ML solutions

PIRIKO (Co-Founder, CTO), Montréal, QC

Feb. 2018 – Aug. 2022

- Created an app with a hybrid TypeScript code base for iOS and Android using Ionic
- Designed and integrated a DynamoDB database using an AWS NodeJS backend
- Negotiated a partnership with Concordia University to make our app their student study-group solution

MEDTRONIC (Software Engineering Intern), Boston, MA

Jun. 2018 – Aug. 2018

- Collaborated with a team of senior developers on critical product software in the field of surgical robotics written in Python, C++, and C
- Solved complicated feedback control issues using Simulink/MATLAB controllers
- Implemented automated testing code to record and playback robotic movements in real-time

MCGILL ROBOTICS (Section Leader), Montréal, QC

Oct. 2016 – Nov. 2017

- Led mission-critical Doppler velocity log group of the autonomous underwater vehicle team
- Implemented high-throughput sonar processing capable of analyzing large data
- Rigorous robotics testing experience at our lab in Montréal and at the International RoboSub Competition in San Diego

AWARDS

- McGill Science Undergraduate Research Award (\$7,000) **2020**
- International RoboSub Competition Finalist **2017**

PUBLICATIONS

- *D. Sandfelder, P. Vijayan and W. L. Hamilton, "Ego-GNNs: Exploiting Ego Structures in Graph Neural Networks," ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2021, pp. 8523-8527.*