MICHELLE LIN

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RELEVANT EXPERIENCE WITH PUBLICATIONS

- A. Chan, R Salganik, A. Markelius, C. Pang, N. Rajkumar, D Krasheninnikov, L Langosco, Z. He, W. Duan, M. Carroll, *M. Lin,* A. Mayhew, K. Collins, M. Molamohammadi, J. Burden, W. Zhao, S. Rismani, K. Voudouris, U. Bhatt, A. Weller, D. Krueger, T. Maharaj; *Harms From Increasingly Agentic Algorithmic Systems;* FAccT 2023
- * **M. Lin**, L.B. Vatrin; *Analysis of Current Ethical Content in Blockchain Education Material;* Pending preprint, 2023
- July 2022: Eastern European Machine Learning Summer participant

ROLNICK LAB | UNDERGRADUATE RESEARCH ASSISTANT | MCGILL UNIVERSITY, MONTREAL INSTITUTE OF LEARNING ALGORITHMS (MILA) | 2021-PRESENT

Lead 4 projects investigating the application of machine learning, computer vision, remote sensing, & geospatial data analysis, under the supervision of Professor David Rolnick.

- M. Catchen, * **M.Lin**, T Poisot, A. Gonzalez, D Rolnick; Improving Ecological Connectivity Assessments with Transfer Learning and Function Approximation; Oral Presentation, Machine Learning for Remote Sensing Workshop, ICLR 2023
- M. Catchen, * **M.Lin;** *Dynamic Link Prediction In Species Interaction Networks;* Pending preprint, 2023
- LB. Berger, * **M. Lin**, T. Zhang; *Assessing the Self-Supervision Feasibility of Cloudcast on Video Frame Interpolation and Forecasting;* Data Science Symposium No. 7, Hereon Helmholtz-Zentrum 2022
- * **M. Lin**, D. Rolnick; *Detecting Oil And Gas Wells Using Machine Learning and Semantic Segmentation*, (Selected Spotlight Talk) Tackling Climate Change With Machine Learning Workshop, NeurIPS 2021

INTERNATIONAL SUMMER SCHOOL ON ICT FOR SUSTAINABILITY (ICT4S) | LORENTZ CENTER, UNIVERSITY OF LEIDEN | AUGUST 2021

Selected as a participant for a highly competitive graduate-student level research summer school.

- C. Bremer, H Gujral, **M. Lin,** L. Hinkers, C. Becker, V Coroama; *How Viable are Energy Savings in Smart Homes? A Call to Embrace Rebound Effects in Sustainable HCI*; COMPASS 2023
- R. Verdecchia, L. M. Cruz, J. Sallou, **M. Lin**, J Wickenden, E Hotellier; *What Influences the Energy Consumption of Artificial Intelligence? A preliminary empirical investigation*; 8th International Conference on ICT for Sustainability (ICT4S 2022)

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[1] NOTE: * Denotes first author publication

SOCIAL STUDIES OF COMPUTING LAB | UNDERGRADUATE RESEARCHER | MCGILL UNIVERSITY | 2019-2021 |

· Under the supervision of Professor Elizabeth Patitsas, investigated and disseminated findings of ableism and disability on technology and computer science
· As a member of the weekly reading group - scoped current literature on the social constructs of computer science, historical and present-day debates surrounding ethical dilemmas in computer science, and the epistemological impact of technology on modern-day society

OTHER WORK EXPERIENCE

DAPASOFT INC | DEVOPS INTERN | JUNE 2020 – JANUARY 2021

· Developed and supported enterprise solutions and integration components using .NET C#, HTML5, CSS3, various Javascript UI frameworks, and the suite of Microsoft Azure products including: SQL Server development, PowerBI.

EMBEDDED RND DEVELOPER| MCGILL UNIVERSITY ROCKET TEAM | 2019-2023

· Used C++ and PlatformIO, researched, documented, and developed the ST-STM32 circuit board microcontroller to be compatible with the university team rocket.

INFRASECURITY & HARDWARE DEVELOPER |MCGILL COMPUTER TASKFORCE | 2019-PRESENT |

· Oversaw the maintenance & infrastructure of on-campus printers and +100 computers
· Using Docker & other microservices, developed an Ubuntu free software mirror server

PAN-CANADIAN K-12 COMPUTER SCIENCE FRAMEWORK | ADVISORY GROUP | 2019

· Collaborated with academic researchers, industry experts, and ministries of education to craft a framework that provides high-level guidance to the Canadian government on curriculum development through data collection via informant interviews, rounds of surveys, and non-profit led events.
· Provided perspective on computer science content on the secondary school level.

UNIVERSITY OF TORONTO | UNIVERSITY RESEARCH WITH COMPLEX SYSTEMS COLLABORATOR | 2017-2018

· Under the program supervision of Dr. Brad Bass at the School of Environment, utilized the Java programming language and the computer simulation model COBWEB (Complexity & Organized Behaviour within Environmental Bounds), to explore Arctic ecology and climate change impacts.
· Trained secondary students on COBWEB technology and aided the presentation of affiliated research findings at workshops and the 2018 Our Poles Our Planet conference.

TECHNOLOGICAL & OUTREACH CONSULTANT | 2018-2022

· NPO clients: Blockchain for Reconciliation, hErVOLUTION, JA Deloitte, Canadian Youth Champions
· Represented clientele, formed financial partnerships, and became highly involved in the local technology community by utilizing interpersonal skills and knowledge of the local industry

- Gained technical insight on a variety of upcoming technologies in the startup domain, specifically products involving blockchain and artificial intelligence technologies

CANADA LEARNING CODE| INAUGURAL AMBASSADOR, MENTOR |2016-PRESENT

- Facilitated programs aimed at educating students of various age groups digital literacy skills (including HTML5, CSS3, JavaScript, Scratch, Ruby, Python) in welcoming environments.

ITALKI, UNIVERSITY OF TORONTO JAPANESE SOCIETY | CONVERSATIONAL INTERPRETER | 2017-2018

- Adapted prior knowledge of syntax, grammatical structure, and related concepts to interpret a Romance and East Asian languages (including French, Spanish, Italian, Portuguese, Japanese)

PROJECTS

(*IN PROGRESS*) FLATPAK DISTRIBUTION PACKAGE MANAGER | 2021

- Researching a potential blockchain backend solution to validate contributors of Free and Open Source projects and repositories relevant to universal Linux distributions

ECOGO | JAVA, ANDROID STUDIO, FIREBASE, GOOGLE CLOUD PLATFORM | ELLEHACKS | 2020

- Utilized the Cloud AutoML Vision API to train the built-in image classifier model to recognize recyclable material as part of a recycling gamification app.

FOREKASTERS | PYTHON, JUPYTER | AI CLIMATE CHANGE HACKATHON | 2019

- Created an image classifier using deep learning neural networks (based on the ResNet50) on a large dataset

MANTIS| JAVASCRIPT, MICROSOFT AZURE| MCGILL MCHACKS HACKATHON| 2019

- Utilized authentication keys, security protocols, and the Microsoft Azure Computer Vision API to create a user-friendly platform for the visually impaired that could extract text from images.

PEAR2PEER | PYTHON, GOOGLE CLOUD PLATFORM | GOOGLE CLOUD SPRINT HACKATHON| 2018

- A mobile application offering AI generated shopping recommendations to local communities
- Designed the cloud architectural diagram and oversaw implementation of the application
- Researched the functionality and integration of Tensorflow with Google Cloud platform
- Responsible for data processing of store transactions, store locations, and user information

SOLAR | UX/UI, HTML/CSS | NASA SPACE APPS TORONTO HACKATHON| 2017

- Conceptualized (via creation of wireframes and products comparisons), programmed, and maintained user-friendly webpages on renewable energy education
- Award: 2017 NASA Space Apps Toronto Hackathon Domain Winner

EDUCATION

UNDERGRADUATE STUDIES IN COMPUTER SCIENCE AND MATHEMATICS | FALL 2018-PRESENT | MCGILL UNIVERSITY

AWARDS & COMPETITIONS

Competed in a dozen hackathons and programming competitions in 2 years including 2017 University of Waterloo: Hack The North, 2018 Equithon, 2018 University of Toronto: Global AI, & 2018 Ellehacks

- 2018 Communitech Code to Win Challenge

- 2018 Euclid Mathematics Contest
- 2018 (AMC) American Mathematics Competition
- 2018 Canadian Computing Competition
- 2018 Ontario Scholar Award
- 2014, 2016, 2018 (3-time consecutive) 1st Place Richmond Hill Public Library Photography Winner
- 2017 (TIFF) Toronto International Film Festival - Jump Cuts Toronto Finalist
- 2015 York Region Skills Challenge Photography Regional Finalist