Yuyan Chen

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Education

McGill University **Jan. 2025 – Presnt**
Doctor of Philosophy in Computer Science
Research interest: machine learning, computer vision, biodiversity, climate change

McGill University **Sept. 2023 – Dec. 2024**
Master of Science in Computer Science
Fast-tracked to PhD

McGill University **Sept. 2019 – May 2023**
Bachelor of Science
Joint Honours Mathematics and Computer Science, Minor in Environment

Research Experience

Koa restoration **Jan. 2025 – Present**
Supervisors: Dan Rubenstein and Mike Long *Ohio State University*
- Using camera traps and microphones to study bird biodiversity in koa restoration sites in Hawai'i

Automated Monitoring of Insects **May 2023 – Present**
Supervisor: David Rolnick *Mila - Quebec AI Institute*
- Using computer vision to discover new insect species in camera-trap images

Machine Learning Storage Benchmarking **Aug. 2022 – Nov. 2022**
Supervisor: Oana Balmau *McGill University*
- Aimed at building an accelerator-agnostic benchmark for storage in ML workloads
- Responsible for data augmentation and generation for different workloads

Modeling Astrocytic Calcium Dynamics **May 2022 – Sept. 2022**
Supervisor: Kaleem Siddiqi *McGill University*
- Used a weighted eikonal equation to model calcium propagation in a 2D cross-section taken from a 3D FIBSEM astrocytic dataset
- Used the level set method and upwinding scheme to implement the partial differential equation

Land Use Change of Panama **Jan. 2022 – Aug. 2022**
Supervisor: Brian Leung *McGill University*
- Used Random Forest regression to predict tree cover percentage and built metric to classify pasture, secondary forest, and shrubs
- Used Random Forest to predict the land cover type of Panama and detect the land cover change over different years with LandSat7 and LandSat8 images

Literature Analysis of Pest Invasions **Sept. 2021 – Dec. 2021**
Supervisor: Brian Leung *McGill University*
- Automation of literature searching, screening, downloading, and keyword highlighting with Python and R
- Used latent Dirichlet allocation (LDA) for topic modeling of papers, reviews, and government reports on invasive forest pest management

Teaching Experience

Teaching Assistant **Sept. 2022 - Dec. 2024**

McGill University *Montreal, QC*

- Answered questions about finite automata, regular languages, context-free languages, push-down automata, models of computation, computability theory, undecidability, and reduction techniques
- Responsible for holding office hours and grading assignments and exams.

Awards

1. **Master Research Scholarship** (Ranked: 5/ 30) *Fonds de recherche du Québec - Nature et technologies, 2024 - 2026*
2. **Graduate Award** *School of Computer Science, McGill University, 2023 - 2025*
3. **Edward Rosenthall Memorial Prize in Mathematics** *Department of Mathematics and Statistics, McGill University, 2023*
4. **Science Undergraduate Research Awards** (×2) *Faculty of Science, McGill University, 2022, 2023*
5. **William Macdonald Scholarship in Science** *Faculty of Science, McGill University, 2021*
6. **Tomlinson Engagement Awardee for Mentoring** (×5) *McGill University, 2020 - 2022*
7. **Dean's Honour List** (×4) *McGill University, 2020 - 2023*