

# Raphaël Christin

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## EDUCATION

### McGill University

Sep 2019 – May 2022

*Bachelor's of Arts & Science*

- *Major:* Honours Cognitive Science (Neuroscience specialization), *Minor:* Computer Science, 3.67/4.00 GPA.
- *Relevant Coursework (Neuroscience):* Advances in Neurobiology of Mental Disorders, Circuitry of the Human Brain, Human Cognition, Cognitive Science, Behavioral Neuroscience
- *Relevant Coursework (Technical):* Artificial Intelligence, Applied Machine Learning, Computational Linguistics, Software Design, Algorithms and Data Structures.

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## RESEARCH EXPERIENCE

### Research Assistant

Sep 2021 – Apr 2022

*Flores Lab (PI: Prof. Cecilia Flores)*

Montréal, QC

- Investigated the effects of overexpressing miR-218 in the medial prefrontal cortex of adolescent mice on adult stress-related behavior.
- Completed various trainings on lab safety and mice handling; assisted with experiment setup, execution, and analysis of the videos.
- Used Python to develop a tool to generate control group schedules for mice in the chronic social defeat stress paradigm. Tool can save 30 min of work per experiment.

### Research Assistant

Sep 2020 – Apr 2021

*Biosignal Interaction and Personhood Technologies lab (PI: Prof. Stefanie Blain-Moraes)*

Remote

- Investigated the effects of using different graph generation and thresholding methods from EEG recordings applied to the analysis of consciousness.
- Conducted literature review and self-learned prior work on graph generation and the field of consciousness.
- Used MATLAB and Compute Canada servers to perform the analysis.

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## CODING PROJECTS

### fashion-MNIST Neural Network Classifier

- In a team of 3, implemented and tuned a multi-layer perceptron (MLP) from scratch using Numpy and a CNN using Pytorch to classify the fashion-MNIST dataset. Achieved a test accuracy of 88% for the MLP, and 91% for the CNN.

### Simplified Go AI Agent

- Implemented an agent using Monte-Carlo tree search to play a simplified version of Go in a tournament against other students. Achieved a 99% win rate against a random agent.

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## ACTIVITIES

### Computer Science Undergraduate Society Helpdesk

Jan 2021 – Apr 2022

*Tutor*

- 90 hours of tutoring undergraduate students in total.

### McGill University Ultimate Team

Sep 2020 – Dec 2021

*Co-Captain*

- Helped organize a team of 23 players for competitions, including the Canadian University Ultimate Championships.
- Effectively communicated with a diverse group of players, coaches, and tournament officials.

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## SKILLS

**Languages:** Python, Java, MATLAB, Ruby, C, HTML, CSS, Javascript

**Technologies:** Pandas, Scikit-learn, Numpy, Jupyter Notebook, Git, L<sup>A</sup>T<sub>E</sub>X, Ruby on Rails, TKinter

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## AWARDS

2021, 2022 McGill TEAM Mentorship Award