Emma Rousseau

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Summary

I recently graduated from McGill University with a joint degree in Biology and Computer Science. I am currently open to summer internship opportunities, both in academia and industry, to gain more practical experience before starting my graduate studies in the fall. I am also able to relocate temporarily or travel for a portion of the internship duration.

Work Experience

Research Assistant - Vogel Lab, McGill University May 2021 - present

- Worked on various projects related to bioinformatic protein conformation simulations, mass-spectrometry data analysis, protein evolution in yeast, characterization of yeast mutants, super-resolution microscopy, computational image analysis, and analysis of synthetic genetic arrays with yeast.
- Set up multiple collaborations with McGill and IRCM professors and graduate students in the lab.

Course Mentor - with prof. Giulia Alberini, McGill University Sep 2020 - Apr 2021

- Gave office hours to help students make progress in the course and offered additional online support before important deadlines.
- Helped students understand the course material and apply their knowledge to concrete programming projects and helped them debug their code on a regular basis.

Bioinformatics intern - Coté Lab, Clinical Research Institute of Montreal Summer 2020

- Developed a pipeline for liquid chromatography-mass spectrometry (LC-MS) data analysis.
- Worked on projects related to protein-protein interactions, MS, statistical analysis, and computational biology methods.
- Acquired extensive knowledge of the Compute Canada servers, as well as batch processing and scripting.

Projects

"Am I OK?" - Recipient of 2 prizes at MAIS Hacks 2022 Link to Demo

Developed an AI-powered web-based app that connects patients' medical records and appointment history to provide fast and accessible information on their current health condition and prescribed treatments.

"Air Canada Tolerance" - Damaged Aircraft Fuselage Dimensioning Link to Presentation

As part of the Air Canada Women in Data Hackathon, my team and I created the Air Canada Tolerance app to obtain measurements very quickly and more accurately than with traditional methods, as well as providing a decision aid tool to help maintenance crews determine if the damage is tolerated or if the plane should be grounded and sent to maintenance.

Education

2019 - 2022 Bachelor's Degree, Computer Science and Biology at **McGill University** (GPA: 3.5/4.0)
2016 - 2019 DEC, Natural Sciences at **CEGEP Edouard-Montpetit** (R-score: 33)

Awards

IRCM Foundation Scholarship for Young Researchers
Awarded to students for academic results and interest in graduate studies and biomedical research.

Perseverence Award for Women in Technology
Bursary to encourage women to undertake and complete their undergraduate studies within high-demand disciplines related to information technology and computer engineering.

Skills

Programming	Python, Java, R, C, C++, Linux shell scripting (bash), SQL, Git, Pytorch ML framework.
Other	Scientific writing and research, statistical analysis, machine learning, data visualization, cellular biology methods