

# MEGAN SORENSON

Searching for: 8 Month Coop Fall 2023

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Computer Science

## EXPERIENCE

### Muskoxen Data Project

University of Calgary

August 2022 – Ongoing

Calgary, AB

- Responsible for data cleaning, manipulation, and to determine which variable has the highest contribution to determining hoof health to facilitate community data collection in Northern Canada.
- Collaborative project to describe the characteristics of a healthy muskoxen hoof to ultimately create a baseline for future analyses.

### Data Science Intern

University of Calgary

May – September 2021

Calgary, AB

- Independent project in collaboration with the Canadian Animal Task Force (CATF) and Dogs Trust Worldwide.
- Analyzed the effectiveness of dog clinics over time using canine clinic data.
- Outlined changes for the organization's data collection methods to improve the quality of future assessments; feedback implemented in 2022 clinic data collection.

### Sustainability R&D Co-op

Gaia Protein

January – June 2021

Calgary, AB

- Provided the literature basis for improving the sustainability and efficiency of cricket farming practices within the company.
- Created a handbook used for new-hires at the company as of June 2021.

## PROJECTS

### Canine BCS Approximator [Abstract]

May – September 2021

- Developed a novel method for accurately approximating canine body condition score (BCS) using canine data and historical growth curves.
- Created opportunities to assess the impact of dog clinics where BCS data was not collected from veterinarians and volunteers.
- Utilized: R, Python, Statistics, Data Science

### Optimal Shipping Routes in the Atlantic [GitHub]

September 2021 – January 2022

- A GIS project that utilized historical datasets by creating optimal shipping routes that avoid 90 percent of zooplankton hotspots.
- Contributed to the academic knowledge base by developing a cost-surface raster layer that was minimized for distance and plankton abundance.
- Utilized: ArcGIS Pro, Spatial Statistics, Story Maps, Python

### Arthropod Data Project [GitHub]

September 2021 – January 2022

- Determined whether there was a correlation between climate variables and insect abundance using two decades of presence/absence data.
- Applied bootstrapping methods to find what combination of temporal climatic events would result in a boom/bust for an insect group.
- Utilized: R, Data Science, Data Visualization

## EDUCATION

### 3rd Year Bachelor of Computer Science (BCS)

University of British Columbia

September 2022 – May 2025

### BSc. Environmental and Conservation Sciences in Conservation Biology

University of Alberta, GPA: 3.7

September 2017 – May 2022

## SKILLS/COURSEWORK

Python

R

HTML

CSS

JavaScript

Git/GitHub

LaTeX

ESRI

ArcGIS Pro

ArcMap

StoryMaps

GIS

Zonation

Marxan

Pygame

tidyverse

ggplot2

Spatial Statistics

Data Visualization

Data Cleaning

Regression Analysis

Monte Carlo Simulation

Impact Assessment

PVA

Simulation Annealing

## OTHER WORK

### Head Teaching Assistant

University of Alberta

September 2020 – May 2022

- Lead a laboratory session of 20 undergraduate students in the Department of Renewable Resources.
- Created teaching materials, lectured material, and graded tests and assignments.

### Student Group President

UAZC

September 2020 – May 2022

- President for the University of Alberta's undergraduate zoology club.
- Responsible for managing other executive members and planning meetings.

### Fridge Poetry App [Web App]

August 2022

- A simple web application made using HTML, CSS, and JavaScript where you can create and share fridge poetry.

### Treason: a Pygame [GitHub]

January 2022

- A multi-level shooting game made using Python's Pygame module which increases in difficulty as the player progresses.