Carlos Serrouya

Calgary — T2M 4H1 — carlos.serrouya@ucalgary.ca — 250-837-1041

Relevant Work Experience and Personal Projects

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Data Science Intern *Wildtrax* 2024

- Developed a model using existing data to reduce false positives in Microsoft's Megadetector while maintaining a low false negative rate. During testing, the false positive rate decreased by 72
- Utilized SQL to create a comprehensive dataset from existing website data, then employed Python to perform regression analysis and train a multiple regression model. The model was integrated into an SQL function to streamline the production process.
- Created and implemented scripts to continuously run on Linux Ubuntu servers, converting Terybites of images and audio files to FLAC and PNG formats. Lower-resolution files were then copied to backup hard drives to prevent data loss in disaster scenarios.

Data Science Intern *Wildtrax* 2024

- Developed machine learning models to identify snow depth and coverage in camera trap images.
- Utilized Keras/TensorFlow and scikit-learn to implement semantic segmentation models using U-net, linear models using neural networks (NN) and regressions, and classification models using transfer learning and random forests.
- Optimized image processing using NumPy and Pillow, and minimized RAM and VRAM usage during model training.
- Created algorithms for object contouring, object detection, and outlier detection. Employed Pandas to manage, edit, and read large datasets.
- Presented results to a biology and ecology panel, communicating technical machine learning concepts to a non-technical audience.
- Achieved 84% accuracy in identifying snow depth 96% accuracy in classifying snow coverage.

Personal Project: NFL Score Prediction Model 2023

- Used BeautifulSoup for web scraping sports stats websites to gather data.
- Developed a predictive model for NFL game outcomes using a compiled dataset.

Education

University of Calgary		Coursera	
BSc Computer Science	2022-2026	*Advanced Learning Algorithms*	2023
BSc Mathematics	2021-2026	*Regression & Classification*	2023

Other Work Experience & Volunteering

Server/Bartender/Host

Village Idiot Bar and Grill   2016-2022

- Worked in a high-paced environment, handled customer interactions, and managed cash transactions.

- Operated as part of a team, handling thousands of dollars each shift.

    Basketball Coach   2019-2021

- Volunteered to coach U13 basketball team while serving as the varsity team captain.

- Organized drills, coached games, and led practices.

- Awarded the Terry Bidel award for community athletic leadership and achievement.