

# Carlos Serrouya

Calgary — T2M 4H1 — [carlos.serrouya@ucalgary.ca](mailto:carlos.serrouya@ucalgary.ca) — 250-837-1041

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## WORK EXPERIENCE AND PERSONAL PROJECTS

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| <b>Data Science Intern</b>  | <i>Wildtrax</i>                                  | 2024      |
| <ul style="list-style-type: none"><li>• Built a model using existing data to reduce false positives in Microsoft's Megadetector, lowering the false positive rate by 72% and the false negative rate by 9%.</li><li>• Utilized SQL to create a comprehensive dataset from existing website data, then employed Python to perform regression analysis and train a multiple regression model. Then integrated the model into an SQL function to streamline model production.</li><li>• Developed scripts on Linux Ubuntu servers to convert terabytes of images and audio to FLAC and PNG, with lower-resolution files backed up for disaster recovery.</li></ul>   |  |           |
| <b>Data Science Intern</b>  | <i>Alberta Biodiversity Monitoring Institute</i> | 2023      |
| <ul style="list-style-type: none"><li>• Developed machine learning models to identify snow depth and coverage in camera trap images.</li><li>• Utilized Keras/TensorFlow and scikit-learn to implement semantic segmentation models using U-net, linear models using neural networks and regressions, and classification models using transfer learning and random forests.</li><li>• Optimized image processing using NumPy and Pillow, and minimized RAM and VRAM usage during model training.</li><li>• Created algorithms for object contouring, object detection, and outlier detection. Employed Pandas to manage, edit, and read large datasets.</li><li>• Presented results to a biology and ecology panel, communicating technical machine learning concepts to a non-technical audience.</li><li>• Achieved 84% accuracy in identifying snow depth 96% accuracy in classifying snow coverage.</li></ul> |  |           |
| <b>Personal Project</b>   | <i>NFL Score Prediction Model</i>                | 2023      |
| <ul style="list-style-type: none"><li>• Used BeautifulSoup for web scraping sports stats websites to gather data.</li><li>• Developed a predictive model for NFL game outcomes using a compiled dataset.</li></ul>  |  |           |
| <b>Server/Bartender/Host</b>  | <i>Village Idiot Bar and Grill</i>               | 2016-2021 |
| <ul style="list-style-type: none"><li>• Worked in a high-paced environment, handled customer interactions, and managed cash transactions.</li><li>• Operated as part of a team, handling thousands of dollars each shift.</li></ul>   |  |           |
| <b>Basketball Coach</b>   | <i>Revelstoke Secondary School</i>               | 2019-2021 |
| <ul style="list-style-type: none"><li>• Volunteered to coach U13 basketball team while serving as the varsity team captain.</li><li>• Organized drills, coached games, and led practices.</li><li>• Awarded the Terry Bidel award for community athletic leadership and achievement.</li></ul>  |  |           |

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## EDUCATION AND CERTIFICATIONS

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<b>University of Calgary</b>		<b>Coursera</b>	
BSc Computer Science	2022-2026	Advanced Learning Algorithms	2023
BSc Mathematics	2021-2026	Regression & Classification	2023