

MARTIN ONDRUS

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ABOUT

MD/PhD candidate with experience in machine learning and statistical inference applied to neuroimaging and health data. With 10+ publications, I am interested in applying my interdisciplinary training to challenging problems at the intersection of medical imaging, health, data science, and machine learning.

EDUCATION

Doctor of Medicine / Doctor of Philosophy (MD/PhD) <i>Computational Neuroscience</i>	Jan. 2021 – Jun. 2028 <i>University of Alberta</i>
Bachelor of Science / Bachelor of Commerce (BSc/BCom) <i>Biological Science and Analytics</i>	Sep. 2014 – Jun. 2020 <i>University of Alberta</i>

TECHNICAL SKILLS

Programming: **Python** (*pandas, numpy, matplotlib, seaborn, scikit-learn, pytorch*), **R** (*tidyverse, ggplot2, caret, e1071, randomForest, glmnet, parallel* with experience in time-to-event analysis), **SQL** (*queries, aggregating, subqueries, window functions, indexing* for extracting patient-level data), **Matlab**
Other: Jupyter/Jupyter Notebook, Markdown, L^AT_EX, Git/Github, Distributed Computing, Unix Shell, SLURM

EXPERIENCE

Machine Learning Engineer <i>Andromeda Medical Imaging</i>	May. 2025 – Aug. 2025 <i>Calgary AB, Canada</i>
• Built and trained deep learning models for stroke occlusion detection on head CT scans, improving classification performance by over 35% compared to baseline and enabling robust stroke identification.	
• Implemented an attention-based localization mechanism that highlighted stroke-relevant regions and accurately identified occlusion sites from multiphase CT imaging, improving model interpretability for clinical use.	
Visiting Research Scientist <i>New York University</i>	Jan. 2023 – present <i>New York City, NY, United States</i>
• Developed a method for estimating multilayer networks from multimodal data (accepted at NeurIPS 2025 [link]).	
• Presented findings and actively participated in discussions during weekly lab meetings, seeking feedback on my work and providing constructive input on colleagues' projects.	
• Organized an invited session <i>Frontiers in Graph Learning</i> , and presented work at the <i>Joint Statistical Meetings, 2024</i> , the largest statistical conference in North America.	
Research Scientist <i>Neuroscience and Mental Health Institute</i>	Jan. 2021 – present <i>Edmonton AB, Canada</i>
• Developed FaBiSearch [link], an innovative anomaly detection method for high-dimensional time series data implemented in R [link], with a focus on applications in clinical data analysis and precision medicine.	
• Validated methodologies using both simulated and real-world datasets, achieving significant improvements in detection accuracy. Applied to real neuroimaging data and showed improvements over state-of-the-art [link].	
Data Engineer <i>North Edmonton Kia</i>	Sep. 2021 – Mar. 2023 <i>Edmonton AB, Canada</i>
• Created a recurrently updating dashboard for one of Western Canada's largest automotive dealership groups to empower executives and marketing departments to data-informed decision making in their advertising strategy.	
• Designed and developed a SQL, Python, and Google Cloud based data transformation and visualization pipeline for over 60,000 semi-structured data points which unified key customer information across 4 different databases.	
Data Scientist <i>Volkswagen Canada</i>	Jan. 2020 – Apr. 2020 <i>Remote</i>
• Led a team of 3 data scientists in modeling 2022-2025 Canadian sales of Volkswagen's most important vehicle release in the past decade, the fully electric VW ID.4 vehicle.	
• Presented deliverable and forecasts to Volkswagen Canada senior leadership and advised on regional allocation of over 6,000 new and highly valuable ID.4 vehicles.	