

# Martin Ondrus

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## EDUCATION

### Doctor of Medicine / Doctor of Philosophy

June 2028

*Computational Neuroscience*

*University of Alberta*

*Thesis:* Time-varying, multimodal network estimation and classification for high-dimensional neuroimaging data

*Supervisory Committee:* Ivor Cribben, Russ Greiner, Bo Cao

### Bachelor of Science / Bachelor of Commerce

Sept. 2014 - June 2020

*Biological Science and Analytics*

*University of Alberta*

*GPA:* 3.95/4.0 (top 1% of class)

*Courses:* probability and statistics, machine learning, time series analysis, network science, artificial intelligence

## WORK EXPERIENCE

### Data Engineer Intern

Sept. 2021 – March 2023

*Northwest Auto Group*

*Edmonton AB, Canada*

- Designed a recurrently updating dashboard for Western Canada's largest dealership group to empower executives and marketing departments towards data-informed decision making in advertising decisions
- Developed, from scratch, a SQL, Python, and Google Cloud based data transformation and visualization pipeline for > 60,000 semi-structured data points
- Validated key performance indicators with users, and reduced process lead time by > 50% resulting in tens of hours saved during marketing campaigns
- Optimized back-end computations and delivered the final data product at < 10% of the original monthly budget

### Data Science Intern

Jan. – April 2020

*Volkswagen Canada*

*Remote*

- Led a team of 3 student data scientists in modelling 2022-2025 Canadian sales of Volkswagen's most important vehicle release in the past decade, the fully electric VW ID.4
- Built an intuitive Excel-based simulation tool and visualization interface using solver and VBA for back-end computations which optimized allocations to maximize profitability and product turnover of the launch
- Presented deliverable and forecasts to Volkswagen Canada senior leadership and advised on regional allocation of > 6,000 new and highly valuable ID.4 vehicles

## ACADEMIC EXPERIENCE

### Visiting Research Scientist

Sept. 2021 – present

*New York University*

*New York City, NY, United States*

- Developing statistical theory and computational methods for high-dimensional, dynamic distributions with applications in brain mapping

### Research Scientist

Jan. 2020 - present

*Neuroscience and Mental Health Institute*

*Edmonton AB, Canada*

- Created a novel anomaly detection method called FaBiSearch, for high-dimensional time series data, which includes an R package implementation, and was accepted in the journal *Neurocomputing*
- Validated methodology with simulations and neuroimaging data, used A/B testing to compare to state-of-the-art

## SELECT HONOURS

Joint Statistical Meetings 2024, *Invited Session - Frontiers in Graph Learning: Novel Methods and Emerging Applications*  
Alberta Innovates, *Graduate Student Scholarship* (\$24,000)

National Sciences and Engineering Research Council of Canada, *Master's Award* (\$17,500)

Neuroscience and Mental Health Institute *Richard B. Stein Graduate Studentship* (\$4,000)

## TECHNICAL SKILLS

**Programming:** Python (*pandas, numpy, matplotlib, seaborn, scikit-learn, pytorch*), R (*tidyverse, ggplot2, caret, e1071, randomForest, glmnet, parallel*), SQL, Matlab, PowerQuery, VBA

**Quantitative:** Data wrangling & pre-processing, visualization, database querying, experimental design, statistical inference and hypothesis testing, algorithm design, optimization, machine learning and prediction

**Deployment:** Git/GitHub, Distributed Computing, Unix Shell, SLURM