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