

Taylor D. Edwards, PhD

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Summary

Data scientist and researcher with seven-plus years' experience in industry, academia, and government. I specialize in econometric analysis and producing fast turnarounds for data science needs across an organization.

Experience

Venterra Realty

Richmond Hill, Ontario

Data Scientist

Oct. 2025 - present (1 yr.)

- Designed and deployed spatio-temporal forecasting models for targeted US housing markets. Applied classical econometric models (SARIMAX, statespace) for explainability and due diligence; and modern deep learning (pytorch-forecasting, GluonTS) for the most accurate predictions.
- Built Snowflake Streamlit dashboard for finance team to run time-series ML inference on demand.
- Presented alongside executive team to external investors, sharing how we leverage market data to maximize rental returns.

Health Canada

Toronto

Data Scientist

Oct. 2023 - Oct. 2025 (2 yrs.)

- Designed features and fit models for pollution from Toronto's Pearson Airport; processed field data with ArcGIS Pro, fit model with Python (linear, XGBoost). Results showed airport's emissions can triple nearby pollution levels.
- Cleaned and engineered features from 1000+ column survey data of indoor air pollution for further modelling.
- Led Python workshop for 20+ environmental scientists transitioning from R and SAS.

University of Toronto

Toronto

Graduate Researcher

May 2018 - Dec. 2024 (6.7 yrs.)

- Produced novel findings in pollution science by QA'ing 100,000,000's of air pollution data points with PostgreSQL, pandas; analyzing with sklearn, scipy, numpy, etc. Designed new method for getting results from highly collinear data.
- Developed Python API for EPA dispersion models written in Fortran.

Imperial Oil Ltd.

Nanticoke, Ontario

Applications Engineering Intern

May 2016 - Aug. 2017 (1.3 yrs.)

- Designed and deployed electronic recording system for tank farm measurements, eliminating paper records.
- Programmed new interfaces in legacy Honeywell system, reducing operator use time from minutes to seconds.

Education

Doctor of Philosophy (PhD), Chemical Engineering

University of Toronto — 2025

Thesis titled *Novel methods for air emissions measurement and source apportionment applied at a major urban highway*.

Tech stack & skills

Python: pandas, Polars, NumPy, SciPy, geopandas, jupyter, Streamlit.

Data & Ops: AWS (incl. SageMaker), MS Fabric, Databricks, Snowflake, PySpark, MLflow, Ray, SQL.

Stats & AI/ML: statsmodels, PyMC, scikit-learn, gradient boosting, optuna/hyperopt, PyTorch, darts.

Others: R, Julia, git, ArcGIS Pro, Fortran, Haskell, L^AT_EX.

Achievements

- Used ML to estimate airborne pollutants with > 90% accuracy (doi.org/10.5194/amt-18-2201-2025 🔗).
- Fit complex empirical models with multiple data sources (doi.org/10.5194/amt-18-2201-2025 🔗).
- Published open-source Python package for air pollution plotting (github.com/Zelpuz/bivapp 🔗)