

# Alexander Scott

66 River St, Toronto, Ontario, M5A 3N9 • 416 346 4514 • avs@queensu.ca

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## Academic Experience

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### Adjunct Lecturer, Global MMA 860 – Acquisition & Management of Data

Jan 2019 – Present

- Designed MMA860 for an online delivery as part of the launch for the new GMMA program, including creating new multimedia content (videos, interactive learning tools, etc.) and working with instructional designers on translating technical content in an online platform

### Adjunct Lecturer, MMA 860, COMM161

Jan 2018 – Present

- Developed content and facilitated lectures, office hours, and assessments for 4 sections of 50+ students per year in the MMA covering data analysis and cleaning, linear regression, discrete choice modelling, panel data, and time series analysis in SAS, R, and Python
- Facilitated lectures, office hours, and assessments for ~80 first year commerce students in mathematical foundations

### Teacher's Assistant, MMA – Math Foundations for Analytics, Acquisition & Analysis of Data

Dec 2016 – Present

- Facilitated tutorial sessions and classes for 50+ students covering basic statistical concepts, calculus, optimization, modeling techniques, and interpretation of model results
- Developed class material and student exercises for a data cleaning lecture

### Teacher's Assistant, BCOMM

Sep 2012 – May 2014

- Assisted in International Business, International Negotiations, Management of Information Systems, and Operations Management courses, including assignment creation and assignment / exam marking
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## Research & Writing

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### First Author, Textbook: From Data to Insight

Jan 2019 – Present

- Co-authored a textbook on analytic concepts including data acquisition, data prep/wrangling, modelling, and data quality to support the delivery of (G)MMA860

### First Author, Textbook Statistics for Analytics and Artificial Intelligence

Jan 2019 – Present

- Co-authored a textbook on statistics concepts including probability, random variables, and hypothesis testing to support the delivery of (G)MMA863

### First Author, Analytical Decision Making

Jan 2019 – Present

- Co-authored a textbook on analytical decision making including linear programming, random variables, and queueing theory to support the delivery of (G)MMA861

### Research Assistant, MMA – Customer Loyalty Analytics with Anton Ovchinnikov

Aug 2016 – Mar 2017

- Modeled customer behaviour using neural networks, CART, and simple linear regression to better understand the dollar impact of creating a new platinum status tier in a national loyalty program
- Identified and modeled the behaviour of strategic customers to determine the dollar impact of customers who exploit mile-run opportunities as part of a strategic customer research paper

### Econometrics Thesis (COMM502), BCOMM – Bootstrap Power Curves

Sep 2013 – May 2014

- Using SAS, developed a model to test the performance of a Bootstrapping procedure on a small data sample (using either a real data set, or a sample data generating process) by completing a Monte Carlo analysis
  - Wrote a thesis discussing how using a Bootstrap procedure to increase statistical power is a useful cost saving technique in industries with expensive or destructive sampling requirements (i.e., pharmaceutical, automakers)
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## Professional Experience

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### Senior Manager, Analytics Lab, Enterprise Data & Analytics, TD Bank

Jan 2019 – Present

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- Lead a team of 5 data scientists and analytics engagement managers to stand up an Analytics Lab at TD; a place where anyone can come to learn, think, or act with data. Currently renovating a lab space to support large workshops, project teams, and advanced analytics technology
- Accelerate analytics projects for Line of Business partners as analytics consultants. To date, decreased procurement costs via expense report fraud and anomaly detection totalling \$1MM, decreased enterprise real estate maintenance costs by combining all maintenance work orders across Canada / US saving \$6MM and working towards optimizing in-branch customer referrals; value TBD
- Design and lead custom workshops and training using design thinking best practices to help business and analytics teams work together and scope analytics projects that will drive value for their business. Workshops include problem resolution, storytelling with data, project management, and executive education in Analytics/AI

## Manager, Business Insights & Analytics, Enterprise Data & Analytics, TD Bank

Jan 2018 – Present

- Founding member of the Data & Analytics strategy team with a mandate to define the data & analytics strategy and operating model across the enterprise
- Led the enterprise talent strategy with a focus on community engagement, recruiting, analytics operating model, and training for all analytics departments at TD. Resulted in new analytics training pathways by job family and a new, right-sized analytics operating model, and over 1700 analytics professionals mapped to job families
- Developed and delivered analytics training for executives and non-analytics employees covering over 500 executives and 1000 other employees
- Managed a team of data scientists to execute analytics projects across the bank, including: using computer vision to identify bad cheques, predictive modelling to proactively monitor technology performance, and using natural language processing to more accurately assign technology incident reports

## Senior Management Consultant – Carly Rian Group, Toronto

Aug 2016 – Jan 2018

- Managed a 'War Room' style engagement using an agile management and development approach at a Big 5 Canadian Bank. Led 6 unique projects with 25 staff to decrease total fraud losses by over 30%. Projects focused on improving fraud detection probit models on both customer and transaction records, improving fraud operations processes, and improving customer service through call centre and fraud claims processes
- Designed and delivered an overarching project management system for a large public sector client; helped guide our client's senior leadership team through over 100 projects and three strategic initiatives as a trusted advisor

## Senior Consultant – Ernst & Young, Toronto

May 2015 – Aug 2016

- Developed a custom clustering algorithm in SAS to create contiguous, homogenous 'Micro-Markets' from over 60,000 unique areas across Canada as part of a network optimization project for a Big 5 Canadian Bank. Led the development of an optimization and simulation linear algorithm to model transaction flows and optimize branch and ATM openings, closures, and locations across the country resulting in the closure of 50 branches with 98%+ customer retention
- Developed a transaction demand model based on detailed withdrawal and deposit data and customer behaviour patterns to determine the optimal location for new ATM technology, and the risks of removing an ATM across a Big 5 Canadian Bank's branch network
- Developed a customer profitability algorithm and the future state operating model for using it effectively for a Big 5 Canadian Bank. Researched and recommended global best practices for revenue calculations and cost allocation methodologies, as well as a BI tool to effectively use the profitability metric.
- Designed an activity-based optimization model using financial advisor sales and meeting records to determine the optimal complement and placement across a Big 5 Canadian Bank's branch network. Net results were a 10% increase in network utilization and sales throughput
- Created and facilitated onboarding training for new consultants covering Excel, SQL, and SAS base skills

## Associate Consultant – Novantas, Toronto

Jun 2014 – May 2015

- Conducted CCAR (Comprehensive Capital Analysis and Review) PPNR (Pre-Provision Net Revenue) modelling/testing for two large U.S. financial institutions. Using SAS macro programming, ARIMA, OLS, and PLS modelling, forecasted 12 deposit and lending

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portfolios across 3 different scenarios provided by the Federal Reserve. Completed models and documentation on tight timelines while passing all statistical tests as per the model validation group at each bank and the Federal Reserve's guidelines

- Facilitated the merger of two mid-size U.S. financial institutions by predicting customer behaviour using historical data and a conjoint analysis to create a new, optimized portfolio of retail product offerings. Net results were a 90%+ retention rate for current customers, low merger costs, and increased sales
  - Surveyed and analyzed the Canadian banking retail savings account market to design and price a new behavioural savings product for a large Canadian bank, creating over \$5MM in revenue for fiscal 2015. Using a conjoint analysis and historical data, modelled the future balances and profit of the account with a 10% margin over the first 12 months
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## Education

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**Smith School of Business – Master of Management Analytics (MMA)**

**2016-2017**

- Top Student Award, 4.2 GPA

**Queen's School of Business – Bachelor of Commerce (BCOMM)**

**2010-2014**

- Dean's list

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## Skills & Certifications

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- **Programming Languages:** R/Python/SQL/SAS/VBA
- Proficient in Office Suite of products (Excel, PowerPoint, Word, Access)
- Familiar with Hue, Hadoop applications (Hive, Impala), H2O, Trifacta, Talend, Spark
- Canadian Securities Course (CSC)
- SAS Customer Intelligence 6.X Certification
- Lean Six Sigma Green Belt