# Christopher Belanger, PhD

Website: https://cbelanger.netlify.app/

GitHub: github.com/chris31415926535/

LinkedIn: linkedin.com/in/christopherabelanger/

1243 Willowdale Ave., Ottawa, ON

christopher.a.belanger@gmail.com

+1(613)700-2561

## EDUCATION

**Telfer School of Management, University of Ottawa,** Ottawa**,** Ontario
**M.B.A. Candidate,** 2021
- **Pierre Maurer Metropolitan Life Scholarship:** For the highest grades of the intensive cohort (top of the class).
- **MBA Alumni Association Award:** For a high-impact data science project in support of the Ottawa Food Bank.
- **James F. Roache Award:** For demonstrating outstanding ethical standards.

**Lean Six Sigma Yellow Belt Certification,** 2019

**PhD, University of Toronto,** Toronto, Ontario
**Philosophy of Modern Physics,** 2015
- Combined philosophy, mathematics, custom computer simulations, and nonlinear dynamics (chaos theory).

**BSc Hon, University of Toronto,** Toronto, Ontario
**Physics and Mathematics**, 2007
- Completed courses in mathematics, statistics, and physics; was awarded a summer NSERC data analysis internship.

## EMPLOYMENT EXPERIENCE

**Ottawa Neighbourhood Study,** Ottawa, Ontario.
**Data Scientist,** 2020-Present
- Led data collection and analysis for a comprehensive study of inequities in Ottawa's food environment.
- Led all analytical aspects of a project for the *Institut du Savoir Montfort* to study inequities in travel times to primary care between Ottawa's Francophone population as compared to the general population *(publication forthcoming).*
- Streamlined internal data processes, including a custom R package, to automate routine reporting and data activities.

**Natural Resources Canada,** Ottawa, Ontario
**Policy Advisor: Strategic Science Policy and Engagement Division,** 2018-2019
- Led the skills and diversity stream of NRCan's 2019 Medium-Term Planning (MTP), delivering an evidence-based cross-Department plan that the Deputy Minister and ADMs praised for its high quality.
- Worked with executives to design and implement data-driven governance and control systems for the Canadian Council of Forest Ministers (CCFM), strengthening accountability and tying results to decision-making.

**Ontario Ministry of Health and Long-Term Care,** Toronto, Ontario
**Policy Advisor to the Assistant Deputy Minister: Health System Accountability and Performance,** 2017-2018
**Senior Program Consultant, Policy Analyst: eHealth Strategy and Investment Branch,** 2014-17
- Provided direct policy and strategy advice to the ADM and Directors on primary care and home and community care.
- Developed evidence-based indicators and dashboarding for Ontario's health system, including spearheading an innovative "patient flow map" to help identify bottlenecks in the health system that contribute to "hallway healthcare."
- Led ministry negotiations on two >$30M funding agreements for provincial funding for electronic medical records (EMRs) that increased data interoperability and strategic alignment in the face of uncertainty and challenging politics.
- Led oversight for Ontario's investments in electronic medical records (EMRs) for community-based clinicians, including a data strategy to increase EMR interoperability and a provincial strategy for eReferrals and eConsults.

## PUBLISHED R PACKAGES

**valhallr.** Creator, author.
- A tidy R interface to the Valhalla engine for vehicle routing, isochrones, and origin-destination analyses.

**storywranglr.** Creator, author.
- Explore Twitter trends with the 'Storywrangler' API.

**tidygeocoder.** Author, Google Maps module.
- A unified R interface to several online geocoding services.

## FEDERAL QUALIFICATIONS

- **Federal SLE Language Levels:**    French C/B/C
- **Federal Security Clearance:**    SECRET

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## SAMPLE DATA-SCIENCE PROJECTS

**Optimizing Food Bank Locations.**
- Worked with the Ottawa Food Bank to study optimal locations to minimize travel clients' burden. This work, done with a co-author, won the 2020 Telfer MBA Alumni Association Award.

**Social-Media Analysis of Ageist Discourse on Twitter.**
- Combined quantitative methods with qualitative content analysis to study online sentiments related to ageism expressed on Twitter combining data sources from Google Trends, news articles, and Twitter.
- Done as a final project for a directed reading at Telfer.

**Safety Analysis of Military Traffic Collisions.**
- Extracted and analyzed trends in vehicle collision data for military vehicles compared to the general population.
- Final manuscript under review for publication.

**Predicting Consumer Ratings from Review Text.**
- Created a natural-language processing model based on logistic-regression to predict customer reviews from text ratings. Done as a final project for an MBA directed reading class. A public summary is available here.

**Studying Inequities in Travel Times to Language-Concordant Primary Care.**
- Through the ONS and in partnership with the *Institut du Savior Montfort*, this project calculated and analyzed travel times to primary health care for Ottawa's Francophone population as compared to the general population.
- Final manuscript in preparation for submission to the CMAJ.