

# Justin Charbonneau

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## Work Experience

### Ario Platform

Ottawa, Ontario

DATA SCIENTIST (CO-OP)

Jan. 2019 - PRESENT

- Created an R package for collecting Google Trends data and aggregating results across time and location which is ready to be used
- Performed data collection, data exploration and data cleaning on a regular basis in R
- Developed an image processing and computer vision pipeline to extract information from image files using Python and open-source libraries such as OpenCV for its image processing capabilities; applied and compared several OCR engines (AWS, Google and Microsoft)
- Demonstrated a Jupyter Notebook to the staff to showcase the image processing pipeline
- Documented all work in Confluence and generated reports using R Markdown and R Flex Dashboards

### Fisheries and Oceans Canada

Ottawa, Ontario

PROGRAMMER

Jan. 2018 - Dec. 2018

- Improved the accuracy of the information stored in our database by developing a PHP web application that identified discrepancies and allowed users to validate the information and track the validation progress
- Exploited APIs to update the information in the configuration management database
- Displayed summary data using Google Chart API

### Fisheries and Oceans Canada

Ottawa, Ontario

JUNIOR SYSTEM ANALYST

Apr. 2017 - Dec. 2017

- Integrated parameterized SQL views in Cognos Query Studio to allow clients to query user specific subsets of the data
- Produced multiple ad-hoc reports using SQL queries for providing detailed server and database metrics to management
- Wrote a PowerShell script to send customized emails according to configurable RDBMS stored information

## Skills

<b>Python</b>	Good working experience with Python and familiarity with many libraries (Scikit-learn, Pandas/Numpy, Matplotlib)
<b>R</b>	Intermediate level using R and familiarity using popular libraries (Tidyverse, Shiny, FlexDashboard)
<b>Machine Learning</b>	Good understanding and experience with classification, clustering, time series analysis and recommender systems
<b>SQL</b>	Experience with several SQL dialects (MS SQL, SQL Server and Oracle) and exposure to MongoDB and ETL tools such as Talend
<b>Data Visualization</b>	Good working knowledge of producing graphs using ggplot2 in R and matplotlib in Python; experience using Tableau
<b>Statistics</b>	Good applied statistics skills, such as hypothesis testing, regression analysis and time series analysis
<b>Version Control</b>	Familiarity using Git and some experience using Subversion
<b>Languages</b>	French (Fluent), English (Fluent)

## Education

### University of Ottawa

Ottawa, Ontario

MASTER IN ELECTRONIC BUSINESS TECHNOLOGIES

Jan. 2018 - Exp. Dec. 2019

- Research project: Text Mining for Intelligent Market Trading
- Relevant Courses: Data Mining and Concept Learning, Data Science Applications, Web Services, BI Technologies and Big Data

### University of Ottawa

Ottawa, Ontario

B.COM IN MANAGEMENT INFORMATION SYSTEMS AND ANALYTICS (MISA) MAGNA CUM LAUDE

Jan. 2014 - Dec. 2017

- Received Merit Scholarship for maintaining an above average of 85 percent
- Relevant Courses: Statistics for Management, Applications of Statistical Methods in Business, Predictive Analytics

## Projects and Certifications

RESTAURANT RECOMMENDER SYSTEM

June. 2019

- Wrote a Python script to collect social media information (Yelp API) for 1000 local restaurants
- Pre-processed and transformed the data (reviews using TF-IDF and one hot encoded categories) to build a content-based recommendation system
- Used the cosine similarity to provide recommendations and built an R Flex Dashboard to display the results
- Discovered two new restaurants that I loved

#### TEXT CLASSIFICATION AND CLUSTERING

June. 2019

- Used Python's scikit-learn and keras (feed forward neural network) to classify news articles
- Implemented clustering algorithms (EM and K-Means) to classify the documents
- Evaluated the outcomes by calculating Kappa, Consistency, Coherence and Silhouette
- This will be my starting point for the Intelligent Market Trading research project

#### IMDB MOVIE RATING PREDICTION

Apr. 2018

- Built a parsimonious step-wise regression model to predict the Internet Movie Database (IMDb) movie ratings which was part of the Coursera course
- Extended my project by integrating my model into a Shiny application

2019     **Bayesian Statistics: From Concept to Data Analysis**, Coursera - Certificate received

2018     **Linear Regression and Modelling**, Coursera - Certificate received