**Maxime Sirois**

**Data Scientist**

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Portfolio: [Max0513.github.io](https://github.com/Max0513/Max0513.github.io)

**Skills**

* Solid coaching skills
* Analytical problem-solving mind
* Constant learner mindset
* High adaptability to change
* Python, SQL, Tableau, Excel, Power BI
* Exploratory data analysis
* Regression analysis
* Statistical analysis
* Machine learning

# Certificates

## Google advanced data analytics certificate (GCC)

# Completed FEBRUARY 2024

## Mathematical Biostatistics Boot Camp 1

# Completed JULY 2024

## Data Science Infinity

# Completed February 2025

# Education

## Université Laval, Quebec *Mechanical engineering*

SEPTEMBER 2020 - MAI 2023

48 completed credits of a Mechanical Engineering degree including **advanced math**, **statistics** and **project management.**

**Experience**

* **Ashton, Quebec** *Assistant Manager*

FEBRUARY 2011 - PRESENT

Coached a team of 40 restaurant workers, raising the bar of their customer service, the quality of their work and getting them to work as a team which raised their productivity exponentially.

**Projects**

* **GCC – Employee turnover analysis using ML**

*EDA (python) – ML (Tree based classification)*

<https://github.com/Max0513/Turn-over-analysis---Saliford->

Saliford Motors (fictive) was losing employees at a rate that is too high for comfort, so I analyzed data collected from 14999 employees that had been tagged as departed or not.

I then generated insights for stakeholders to investigate regarding possible reasons for leave. Finally, I constructed a tree-based ML model with an f1 score of 94% to screen current employees for departure, based on previous experience.

Next step will be to try logistic regression, knn and random forest to see if they can generate better predictions as well as to investigate curious patterns that could unlock more insights regarding the turnovers.

* **DSI - Predicting customer loyalty using ML**

*ML (Regression) – Data prep (Python)*

<https://github.com/Max0513/ABC-Groceries>

ABC-Groceries (fictive) has had 50% of their customers tagged for customer loyalty, meaning the percentage of their groceries that are spent with them as opposed to their competitors. They feel that assigning the loyalty score to the rest of their customers would greatly help the marketing team.

I then constructed a multiple regression, a tree based and a random forest model and compared the results for r2 accuracy. The chosen model predicted by 4-fold cross-validation a prediction R2 score of 0.925, meaning the chosen dimensions account for about 92% of the variance in the loyalty score so the marketing team will have a reliable way of estimating the loyalty score of the missing customers.

Next step will be implementing the model using streamlit.

* **DSI - Assessing campaign performance using Chi2**

*Statistics (chi2 test for independence) - python*

<https://github.com/Max0513/ABC-Groceries>

ABC-Groceries (fictive) has sent mailers in a recent campaign to incentivize clients to a subscription-based delivery. They did so in two different formats: A higher cost mailer and a budget mailer. They now want to know if the increase in cost in the mailer resulted in a higher subscription rate.

I then applied the chi squared test for independence on the results of the campaign to see if the higher subscription rate of the higher cost mailer was statistically significant. Although the costly mailer resulted in higher signup rates, 37.8% rather than 32.8%, we cannot conclude that the higher cost of the mailer will incur higher revenue for the company.

Applying this test helped save on cost that would not have brought significant revenue.

* **Sales overview dashboards for restaurant managers**

*Tableau*

<https://github.com/Max0513/Retaurant-Sales-Analysis>

Working in the restaurant management business, I often feel like I’m missing a clear portrait of several key metrics that could influence decisions and therefore limit wasted money and time.

I then designed dashboards with Tableau to help condense those metrics into an easy to access and easy to understand source of human insight for decision makers to make quick and reliable decisions.

Dashboards helped reduce cost in the scheduling of staff by identifying peak times as well as reduce waste in inventory with a better understanding of trends in sales.

Next step will be to design a dashboard for HR data.