

# HAIR ALBEIRO PARRA BARRERA

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## WORK HISTORY

### Data Scientist – DevX Analytics

Cisco - Canada

May 2020 - Present

- Technical product development and testing using analytics, data science, machine learning and any other related tools. Implementation of end-to-end **data science pipelines**, from data extraction, engineering, modeling, forecasting and rest API Elastic prediction index setting.
- **Defect Foreshadow**: Directly contributed to the creation of an integrated **pre-customer shipment release recommendation system** based on a multi-layer architecture including classification, regression, KDE and time series forecasting supervised machine learning models and advanced ensemble techniques such as bagging, boosting and stacking and deep learning on product and component level defects, used by thousands of users per month.
- **NextML Ecosystem**: Directly participated in the creation of an **internal machine learning ecosystem** including creating training tutorials on classical machine learning and deep learning, as well as custom ML modules for specific Cisco use cases, adopted by hundreds of engineers per month.
- **Connected-workflow**: Manager and lead engineer-level workflow automatization of systems, releases and error control dashboard including Big-Data aggregation and **automatic document parsing using integrated statistical NLP TFIDF N-gram BOW analysis** and ML inference.

### NLP & Data Science Research

Assistant

DemoTip Lab

June 2019 – January 2020

- **Multilingual NLP Research**: Perform research and tests on NLP tools with libraries such as Python re, nltk, spaCy, genism, translator, spellchecker, and R quanteda, spacyR, etc. for treatment of English, French and Spanish. Perform lab-project-related linguistic research.
- **Lexicoder Lemmatizer** : Create and implement NLP algorithms for lemmatizing, extending and improving lexical sentiment dictionaries in English, French, Spanish and Italian; Design and implement evaluation metrics and testing.

## EDUCATION

### McGill University

Montreal, QC

September 2016 – May 2020

- B.A. **Computer Science** with double minor in **Statistics & Linguistics**. CGPA: 3.61 – Distinction

#### Computer Science

- Object Oriented Programming
- Algorithms and Data Structures
- Theoretical Computer Science
- Applied Machine Learning
- Natural Language Processing
- Database Systems
- Functional Programming.

#### Mathematics

- Calculus I, II & III
- Honours Applied Linear Algebra
- Intermediate Probability
- Mathematical Statistics
- Discrete Mathematics
- Honours Regression and Analysis of Variance

#### Linguistics

- General Linguistics
- Focus on Syntax and Semantics
- Formal Logic.

### Vanier College

Montreal, QC

August 2014 – Jun 2016

- DCS / D.E.C. Languages and Cultures , **Honour Roll** (2014-2016), **Dean's Honour Roll** (Winter 2014, Autumn 2014).

## TECHNICAL SKILLS

### Programming Languages, Technologies & Skills:

#### Data Science

Python, R/RStudio , SQL (MySQL, PostgreSQL), Bash/Shell, Git/GitHub, Elasticsearch, Tableau.  
- (NumPy, Pandas, Matplotlib, Seaborn, re, NLTK, SpaCy, genism, Scikit-learn, TensorFlow, etc.)

#### Other Backend

Java C, C++ , OCaml [some familiarity].

#### Web Development

HTML5, CSS3, Bootstrap5, JavaScript (ECS6), jQuery.

### Human Languages:

- |  |                                  |
|--|----------------------------------|
| 1. Spanish (Native)                      | 6. Italian (Intermediate)        |
| 2. English (Bilingual)                   | 7. Japanese (Upper Intermediate) |
| 3. French (Bilingual)                    | 8. Russian (Beginner)            |
| 4. Mandarin Chinese (Upper Intermediate) | 9. Cantonese (Beginner)          |
| 5. Japanese (Upper Intermediate)         |                                  |

## PROJECTS & TECHNICAL WRITING

- **Data Science & Statistics Technical writing on Medium (+50 articles)**: <https://hair-parra.medium.com/>
- **LDA Centroid-based Summarization**: [https://github.com/JairParra/LDA\\_centroid\\_based\\_summarization](https://github.com/JairParra/LDA_centroid_based_summarization)
- **Modified MNIST: State-of-the-art Exploration** [https://github.com/JairParra/Modified\\_MNIST\\_state-of-the-art\\_exploration](https://github.com/JairParra/Modified_MNIST_state-of-the-art_exploration)
- **Kaggle\_Redditi\_Multiclass\_Classification** [https://github.com/JairParra/Kaggle\\_Redditi\\_Multiclass\\_Classification](https://github.com/JairParra/Kaggle_Redditi_Multiclass_Classification)
- **ML Reproducibility Challenge**: [https://github.com/JairParra/ML\\_Reproducibility\\_Challenge](https://github.com/JairParra/ML_Reproducibility_Challenge)
- **Implementing Logistic Regression & LDA from scratch**: [https://github.com/JairParra/Logreg\\_LDA\\_from\\_scratch](https://github.com/JairParra/Logreg_LDA_from_scratch)
- **Dating Rental Database Project**: [https://github.com/JairParra/Dating\\_Rental\\_Database\\_Project/blob/master/README.md](https://github.com/JairParra/Dating_Rental_Database_Project/blob/master/README.md)