LEA GAUTHIER
Data Scientist

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I am an experienced Data Scientist with a demonstrated history of working in high-performance computing environments. With more than 10 years of experience in the field of data science, I have a proven ability to unravel complex problems and share their solutions comprehensively to business partners.

I am using my knowledge on mining, pre-processing data and extracting knowledge using deep learning, Bayesian statistical modelling and various machine learning algorithms. I am skilled in BigData Analytics, Machine Learning, Statistical Data Analysis, etc.

💼 PROFESSIONAL EXPERIENCE

Now
January 2018

Senior Data Scientist, ARIANN SOLUTION, Montréal
- ✓ Developped algorithms and machine learning techniques for Finance, Gaming and Advertising sectors (Neural Networks, Time-series analysis, Bayesian statistical modelling and probabilistic machine learning)
    - › Lead developer for sentiment analysis : study of tweets impact on the market using topic modeling (Latent Dirichlet Allocation model) and study of news (GlobeNewsWire) impact on the market using Embedding and LSTM model of Keras
    - › Developped a new market prediction model for price and fundamentals using fundamentals, economics, consensus and linked it with Interactive Broker for investment
    - › Analyzed Real Time Bidding data to optimize Online Advertisement Revenues with One-Hot encoder, RandomForest model and Dense Neural Network
    - › Lead developer to analyze music data to predict the next trending song using Bayesian statistical modelling. Developped an API to return these informations as a json according to user's options.
- ✓ Development of web interface for data visualization with Dash to present algorithm's result to clients

TensorFlow | Keras | Scikit-Learn | Gensim | Dash | python | MySql | Parquet | HTML | PHP | JavaScript

December 2017
August 2016

AI Developer, GUILLEMOT R&D, Montréal
- ✓ Development of machine learning techniques (TensorFlow, Keras, Scikit-Learn for Random Forest and Deep Neural Network) in multiples sectors
    - › Developed models to predict the market's price using fundamentals and economics with Time Series analysis and Random Forest model
    - › Lead developer for sentiment analysis models with deep neural networks for tweet analysis
    - › Developed a model to predict the potential revenue of user into Real Time Bidding using Deep Neural Network and One-Hot Encoder + Random Forest
    - › Developed model to extract Beat Per Minute in songs in order to automatically mix music for DJ platforms
- ✓ Web Interface development with data visualization tools to present algorithm's result to clients

TensorFlow | Keras | Scikit-Learn | python | C++ | PHP | JS | HTML | Plotly | Bokeh | SQL | git | svn

August 2016
August 2015

Researcher-Developer, GAMELOFT, Montréal
- ✓ Worked on pattern recognition and machine learning techniques :
    - › Empowered the production and business by studying the sales impact from advertisements with Time Series Analysis (SARIMAX method)
    - › Developped of a Geolocalisation model (C++ programming)
    - › Developped algorithms for RTB on different platforms (Appnexus, Spotx) to increase online advertisement banners and videos
    - › Worked on topic modelling and natural language processing to define new categories of mobile's games
- ✓ Web interface development for data visualization of the sales' impact
- ✓ Utilization of database management and collaborative Tools

Scikit-Learn | python | C++ | PHP | JS | HTML | MySQL | svn | Jira | Apache Cassandra

July 2015
October 2012
	Post doctoral Fellow, Université de Montréal, Montréal/Genève
	✓ Work on the ATLAS experiement at the LHC
	   ❯ Optimized and expanded signal extraction strategies using Boosted Decision Trees
	   ❯ Developped a Likelihood method to analyse the reconstruction error of the electron's charge and correct it
	   ❯ Coordinator of the analysis Chargino-Neutralino pair production in same-sign dilepton events
	   ❯ Hardware work on the development of a new particle subdetector
	✓ Teaching PHY1902L - Électricité et optique at Université de Montréal
	✓ Popularizing science for Cegep sudents
	✓ Publications of four scientific articles
	
	C++ python Root svn Jira LaTeX

September 2012
October 2009
	Doctorant-Enseignant, CEA-Saclay, Paris/Genève
	✓ Thesis on fundamental physics at the ATLAS experiment at the LHC (work on hardware, experimental and theoretical physics)
	   ❯ Developed a model for data mining and pattern recognition of big data (Bayesian statistical modelling and probabilistic machine learning with Boosted Decision Tree) with the goal of affirm or refute a new theory
	   ❯ Empowered the trigger system of the Level 1 Electromagnetic Calorimeter by improvement of the calculation of the energy reconstruction of the particules (Big Data, clustering)
	   ❯ Development of a new particle physics model to explain the origin of the dark matter
	✓ Teaching Activities at Université Paris-Sud (Electromagnetic and Optic)
	✓ Publications of five scientific articles
	
	C++ python Root svn Jira

🎓 QUALIFICATIONS

2012	PhD in physics CEA-Saclay
2009	Master's degree in fundamental and applied physics Université Paris-Sud
2007	Bachelors in physics Université Paris-Sud/Nice

▦ SKILLS

Programming	Python, C++, Root, LaTeX, Plotly, Dash, Bokeh
Machine Learning	TensorFlow, Keras, Scikit-Learn, Gensim
Web	HTML, PHP, JavaScript
Database	phpMyAdmin, MySQL, Parquet
Tools	git,svn, Jira
Communication	Strong skills for team work and communication/presentation
Language	French and English

⚙ INTERESTS

- Rowing
- Cross-country skiing
- Yoga