

François Thérroux

CONSULTANT - ARTIFICIAL INTELLIGENCE, BIG DATA AND CLOUD COMPUTING

+1 (450) 400-1040 | ftheroux@progranova.com | 12 years of IT experience

"My passion: storing, visualizing and using data to create value in your business."

SKILLS

Programming	Python, R, Java, Scala, C#, C++, JavaScript, SQL, NoSQL, HTML5, PHP, CSS, Node.JS, ReactJS, React Native (Android and IOS), ASP.NET, VB Script, web services (WSDL, SVC, ASMX), Shell Scripting, PowerShell, LaTeX, SPARQL, ...
Platforms	Linux Server (Ubuntu, RedHat, ...), Windows Server (DC, DHCP, Active Directory, IIS, Custom Services, ...), Database (PostgreSQL, MySQL, SSIS, Oracle, DB2, ...), Google Cloud Platform (Firebase, App Engine, Cloud AI, Analytics), Microsoft Azure (All services), AWS (All services), OpenStack (On-premise cloud admin), Container (Docker, Kubernetes, OpenShift), Jenkins, Concourse CI, Active Directory, Kerberos, Hortonworks & Cloudera (Apache: HDFS, Hive, HBase, Spark, Nifi, Kafka, Ambari, Solr, Knox, Presto), IBM Watson, Elastic Search, Denodo, Stardog, Databricks, Power BI, Tableau, CMS, JDBC, Jira, Confluence, Git, CI/CD, JIRA, AutoCAD, 3DS Max, MAYA, Adobe Creative Cloud, Networks, Rapid7 (Metasploit, InsightVM), CrowdStrike, BlackArch Suite, ...
Financial data	Bloomberg, GFIS, RavenPack, Capital IQ, Compustat, Merrill Lynch, ...
Others	Accounting/Taxation, Tax Credit (SR&ED, PARI, CDAE, Prompt, ...), Finance and Investments, Risk Management, Recruitment, Private Loan, Real Estate, ...
Languages	English and French

EXPERIENCES

Director - Artificial Intelligence, Big Data and Cloud Computing Progranova

August 2017 – Present

- Manage a team of about ten dedicated developers to Artificial Intelligence, Big Data and Cloud Computing projects.
- Manage projects in agile mode.
- Perform customer presentations to demonstrate how to create value with their often unused data.
- Design Big Data solution architectures for several types of use.
- Develop secure hybrid solutions on-prem cloud.
- Offer specialized training services in the data sector.
- Develop proprietary algorithms applicable in the financial sector.
- Implementation of tax-efficient solutions for customers in their research and development phase.

Similar positions: Project Manager, Solution Architect and Integrator, Big Data Engineer, Data Scientist,

AI, Big Data & Cloud Developer – Contract 37.5h/week

Caisse de dépôt et placement du Québec

October 2020 - Present

- Set up data science studios for all quant developers.
- Develop financial data ingestion pipelines for multiple teams.
- Develop a market data aggregator.
- Document best practices in DevOps and AI development.
- Develop augmented intelligence solutions for portfolio managers.
- Develop algorithms to maximize alpha while reducing risk.

Technologies: AWS all data platform and data flow tools, Azure DevOps, PostgreSQL, Python, Data sources: Bloomberg, GFS, Refinitiv, Capital IQ...

Positions: Big Data Engineer, Solution Architect and Integrator, Cloud Engineer, Data Scientist

Fixed Income – Quantitative Developer – Kedro/Python

- Automate and put into production data science models using the Kedro Framework.
- This model has made it possible to predict the credit ratings granted to companies and governments to identify economic crises and predict the performance of their obligations.

PLEX – Data Engineering – NIFI

- Set up data transformation pipelines to standardize data from market data providers in addition to intermediate calculations and NLP, particularly for 10K processing.

PLEX – Data Science Studio – AWS

- Set up isolated AWS subscriptions for each of the operations teams in a fully automated way using DevOps processes.
- The studios enabled eight teams to access data from la caisse's data lake to deliver their data science initiatives in standardized environments in AWS Service Catalog.

AI, Big Data & Cloud Developer – Contract 37.5h/week

Desjardins

August 2018 – August 2022

- Set up the data-oriented Azure integration infrastructure and sample code (Databricks, AzureML, Data Factory, Virtual Machine)
- Define the solution and the architecture to use to create a data lake for Desjardins.
- Development of the cloud environment to host the secure data lake solution.
- Implement a hybrid cloud solution of an active directory and domain service (Idaps, kerberos).
- Install and configure a Hortonworks HDP and HDF solution now Cloudera CDP adapted to Desjardins.
- Implement ten PCI and FIPS 140-2 security pillars to enable an end-to-end secure pipeline.
- Develop scripts to modify the product and allow it to run in the cloud while using internal infrastructure at the same time.
- Creation of models and data flows using different Hortonworks and Apache tools (Hive, Kafka, HBase, Spark, NIFI).
- IBM Watson and Cloudera solutions experts.
- Train Desjardins Group employees on the technologies implemented by the advanced analytical foundation (Movement Expertise Center).
- Hire new team members to expand the department.
- Develop new models and deploy them in the different business lines.

Technologies: Hadoop, Azure, IBM Watson, PostgreSQL, Rapid7, CI/CD (GitLab, Jenkins), Docker (OpenShift, Kubernetes),

Positions: Big Data Engineer, Solution Architect and Integrator, Cloud Engineer, Data Scientist, Distributed Systems Security

Advanced Analytics Foundation 2.0 – Azure

- Continue the Foundation 1.0 missions while migrating existing and future initiatives to Azure technologies to save infrastructure costs.

Advanced Analytics Foundation 1.0 – IBM Watson

- Set up a standardized platform as well as best practices (example code and support) for the entire movement with regard to data science.

- The integration of the IBM Watson suite into the Hortonworks suite as well as the training courses have enabled a dozen business lines to put into production artificial intelligence models available on the organization's various communication axes.

Advanced Analytics Foundation 1.0 – Hortonworks HDP and HDF (Hadoop)

- Set up a standardized platform as well as best practices (example code and support) for the entire movement with regard to Big Data.
- The migration of data from call centres, insurance, card service, personal loan and business as well as certain subsidiaries of the movement to a Hadoop platform has made it possible to store petabytes of data and to accelerate calculation times for the generation of insight.

Tech Lead AI, Big Data & Cloud – 25h / week contract

National Bank of Canada

June 2019 - May 2020

- Manage a team of developers to complete the project as quickly as possible.
- Develop the data model based on the Microsoft data model.
- Implement Azure Data Lake storage framework.
- Develop data pipelines using Databricks and Data Factory.
- Install and implement Stardog Triple Store for creating semantic web graphs.
- Build real-time data flow using Azure Function and Event Hub.
- Refactor codes and architecture.

Technologies: Azure, Databricks, Data Factory, ADLS, Docker, Azure Function, Event Hub, NSG, ADDS, Stardog, Jira, Elastic Search, MultiTenant Management

Positions: Big Data Engineer, Solution/Platform Architect, Cloud Engineer, SysAdmin

Employee Experience Project – Semantic Web/Azure/ Stardog

- Create an RDF database of the organization in order to generate insights on employees using the entire data from the user positions provided by the organization.
- Algorithmically generated insights allowed to:
 - Improve employee retention by offering promotions based on individual interests and skills, for example.
 - Identify the training required in the various teams of the organization.

Treasurer – Administrator 1h/week

AQIII

October 2019 - Present

(The Quebec Association of IT Freelancers)

- Create Tableau reports on financial data.
- Quarterly accounting and report.
- Conference on new technologies and mentoring for new members.
- Advise the Board of Directors in setting up services and training for young professionals wishing to become independent consultants.
- Writing and design of the landing page of the advertising campaign to attract young professionals to become consultants.

Technologies: Office 365, Zoho One

Positions: Administrator, Speaker, Accountant

Team lead – JavaScript Full-Stack – Permanent 16h/ week

SpikeHub

January 2020 – June 2021

- Define the solution and architecture to be used to create an IT talent acquisition solution.
- Set up GCP infrastructure and network security.
- Design and develop a complete solution with few resources.
- Perform complex development tasks.
- Test and market solutions extremely quickly.
- Hire and integrate new employees.
- Management of accounting, taxation and tax credit.

Technologies: GCP, React.JS, JavaScript, Docker, Jira, Intuit Profile

Positions: Full-Stack Programmer, Recruiter, Speaker, Accountant

Advisory Board – Administrator 8h/week

Conova Solutions

May 2020 - April 2021

- Define the solution and the architecture to be used to create a human resources knowledge graph using the Semantic Web.
- Set up AWS infrastructure and network security.
- Participate in enterprise architecture and strategic meetings.
- Manage grant applications and accounting.
- Hire and integrate new employees.

Technologies: AWS, Docker, Miro, Intuit Profile

Positions: Big Data Engineer, Solution Architect and Integrator, Cloud Engineer, Accountant, Enterprise Architect

Artificial Intelligence and Advanced Analytics Consultant – Permanent 35h/week

Raymond Chabot Grant Thornton

January 2018 - August 2018

- Act as a consultant for the development of artificial intelligence and advanced analytics solutions for RCGT clients.
- Develop data structures and models to create value for customers.
- Apply machine and deep learning models and algorithms to solve business use cases.
- Create development architectures to enable optimization of applications and infrastructure.
- Actively participate in artificial intelligence activities in Quebec.

Technologies: Python, R, Keras, TensorFlow, Tableau, SQL, NoSQL, CI/CD, Docker, Kubernetes

Positions: AI Developer, Data Scientist, BI Developer, Technology Advisor

CN Investment Division – Private Contract – VBScript/Python

- Develop a classification model for exchange-traded securities with data from a Bloomberg terminal.
- This deep learning model is able to automatically classify thousands of securities based on analyzes previously performed by fund managers.
- Tens of millions of dollars in investments have been made in emerging markets using this deep learning model.

ARTM – Government contract – PowerBI

- Develop big data jobs to allow real-time processing and archiving of customer trips in the Montreal public transit network.
- Tableau was used to display the KPIs to the client and answer their question.

Chatbot – Internal contract – Python

- Develop a tool and an algorithm capable of automatically answering questions asked by the internal accountant based on a Word and PowerPoint database (NLP).
- This tool can search the Internet. If it does not find the answer suggested by the model, the tool forwards the request to Dialog Flow.

Taxi Montreal VS. Uber – Government contract – Python

- Perform geospatial calculations on Uber data to determine taxi pick-up points and calculate losses for Montreal taxi companies.

GPEC Saint-Augustin-de-Desmaures – Government contract – Python

- Develop a platform to manage the talent of a municipality in the suburbs of Quebec to automate and improve management.
- An artificial intelligence has been developed to read the information contained on different physical media.

Full-Stack Cloud Developer – Permanent 40h/week

CAE

September 2017 - December 2018

- Create brand new software to improve business productivity and business intelligence.
- Improve a PHP MediaWiki web application in terms of GUI and user experience by programming new CMS modules for the community and using Big Data platforms.
- Add multiple modules to existing programs to enable better integration with big data and lifecycle management.
- Support development teams in the design and estimation of added value.

Technologies: C#, HTML, CSS, JavaScript, SQL, Power BI, Web Services, Node.JS, Azure, Elasticsearch

Positions: Full-Stack Developer, Cloud Engineer, BI Developer, Linux Administrator, Windows Administrator

CAE Integrator – Javascript/Azure/ PowerBI

- Create and develop a platform from scratch to read large Business Intelligence datasets and automatically generate Power BI Dashboards with Azure.
- With this platform, someone can create a BI dashboard in Montreal and send the content to a screen in the Tango room located in Australia in less than 8 seconds with just 2 clicks. At all times, data is secure and controlled with Azure Active Directory.

PLM Toolbox (deprecated BOM and dynamic server functionality) – C#

- Develop new features for older software developed by CAE in 2009 to help engineers in their life cycle management tasks.
- The BOM Obsolete module can scan an Oracle PLM database to extract all parts that will become obsolete within the next 6 months.
- Create a CI/CD pipeline to make the solution independent of its environment.

WikiPEAK Extensions for CMS – PHP

- Create an extension for a MediaWiki CMS.
- Implement a PHP search engine that uses supervised learning to display relevant results based on past searches.
- The search engine was developed on ElasticSearch so that it can index all documents, images and videos.

IT Technician – Permanent 25h/week

Connect Pro (Geek Squad)

June 2013 - March 2016

- Perform maintenance, software installation, virus and adware removal on client computers.
- Manage customer Active Directory.
- Carry out repairs to defective devices on behalf of suppliers.
- Manage difficult customers through exceptional customer service.
- Manage priorities to optimize delivery times.

Technologies: Windows, Linux, IOS, MacOS, Active Directory

Positions: Computer Repairman, Linux Administrator, Windows Administrator, After-Sale Service, Salesperson

PROFESSIONAL AFFILIATIONS

Participant - Quebec CPA Order

January 2020 - Present

Member - AQIII

June 2017 - Present

Member - Genium360 (network of Quebec engineers)

September 2016 - Present

CERTIFICATIONS AND PERMITS

Chartered Investment Manager (CIM)

Pending

Local Companies Control Law License (LCCL)

Pending

Controlled Goods Program - Designated Representative

Valid

Permis de prêteur d'argent

Valid

Permis de commerçant qui conclut un contrat de crédit à coût élevé

Valid

Private Pilot License (PPL)

Valid

MEDIA PRESENCE

- CScience, Nathalie Dansereau, January 18, 2021. Will the pandemic harm the integration of AI in SMEs?
<https://www.cscience.ca/2021/01/18/pme-la-pandemie-porte-t-elle-ombrage-a-lintegration-de-lia/>
- Courrier Laval, Stéphane St-Amour, January 6, 2021. Artificial intelligence: three SMEs share \$540,000
<https://courrierlaval.com/artificial-intelligence-three-pme-se-partagent-540-000/>
- L'Écho de Laval, Newsroom, December 20, 2020. Quebec grants \$540,000 to three companies

in the region for artificial intelligence projects

<https://www.lechodelaval.ca/actualites/affaires/413523/quebec-accorde-540000-a-trois-entreprises-de-la-region-pour-des-projets-dintelligence-artificielle>

- Ministry of Economy and Innovation, the Government of Quebec, December 18, 2020. <https://www.quebec.ca/nouvelles/actualites/details/intelligence-artificielle-trois-entreprises-aval>
- RCGT, Alexandre Nguyen, Éric Nguyen, François Thérroux, June 7, 2018. Let's talk about artificial intelligence and advanced analytics <https://www.youtube.com/watch?v=KYNsO4niD4U>
<https://www.youtube.com/watch?v=LK1vgjTu2DI>

EDUCATION

Accounting and taxation

University of Quebec at Trois-Rivières, Online

Bachelor of Software Engineering

Concordia University, Montreal, QC

COMPETITIONS

ConUHacks

Concordia University

Leader

- Develop an attack against the clock on the Montreal metro ticket. Decryption of an Opus card to find time 0 (January 1, 1990, 00:00:00). Create an Android application to read and write an NFC card and inject our Time Attack.

YHack

Yale University

Leader

- Use data from Google to apply Machine Learning in the education sector. Our team decided to use TensorFlow to detect written or printed text to automatically create Google Forms in Google Classroom. This technology helps teachers move their paper exercises to forms in Google Cloud.