Robert F. Archibald PhD

Data Scientist · Astrophysicist

Montreal, QC

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Summary

An astrophysicist by training, my background and training has been a demonstrable asset in my current role at Manulife as a Senior Data Scientist.

The skills, techniques and expertise gained in research have proven essential in the corporate/business setting helping draw out novel and actionable solutions from raw data.

I actively seek new problems and enjoy digging into data with the goal of transforming it into an accessible easily-understood narrative. Using statistics modeling to make the data tell a story is vital in anticipating where preparations may be needed and choosing the appropriate steps to take.

Work Experience

Manulife

Montreal, QC

Senior Data Scientist — *November 2019 - Present*

- Reduced cost & compute time of stochastic market simulations by >90%, while satisfying the tight constraints of a heavily regulated industry.
- Developed an automatic tool to compare the outputs of actuarial models. This gives the ability to quickly drill down and find changes in many 10s GB of output due to model changes.
- Management of actuarial tools on `AKS` cluster

Manulife / ICON Consulting

Toronto, Ont

High Performance Computing Specialist — *September 2018 - November 2019*

- Maintained `python azure sdk` tools to manage a large (∼ 2000 vm) scalable compute environment for batch processing jobs.
- Developed a fully unit tested data validation / ETL tool that could parse & compare data from `COBOL` files, `SQL`, csvs, excel files, & more.
- `CI-CD` of `python dash` web apps to live monitor usage & costs.

University of Toronto

Toronto Ont.

Postdoctoral Fellow — *September 2017 - September 2018*

- Designed & implemented an automatic search of X-ray telescope data (∼similar to video) to flag interesting, time varying sources in a many year, 100s of Gb dataset.

McGill

Montreal QC

Research Associate, Doctoral work — *May 2011 - August 2017*

- Developed a `python` based software package to do near real-time analysis of on ongoing multi-year monitoring program of several objects
- Planned observing campaigns of many pulsars using space based telescopes to make efficient use of resources.
- Published 25 scientific articles with > 800 citations in peer reviewed journals.

Education

McGill

Montreal, QC

PhD (Physics) — *June 2014 - October 2017*

- Thesis Title: X-ray Timing of Young Pulsars; Supervisor: Prof. V. M. Kaspi

McGill

Montreal, QC

MSc (Physics) — *September 2011 - June 2014*

- Thesis Title: An Anti-glitch in a Magnetar; Supervisor: Prof. V. M. Kaspi

Dalhousie University

Halifax, NS

BSc (Physics) — *September 2007 - June 2011*

- Thesis Title: Factoring by Adiabatic Quantum Computation; Supervisor: Prof. J. Kyriakidis