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.

Manulife / ICON Consulting

Toronto, Ont

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

- Maintained `python azure sdk` tools to manage a large ($\sim$ 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 ($\sim$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