Lucas Durand

This is a working draft of my resume. It aims to highlight some of my achievements, announce current aspirations, and likely showcase a few Python and/or Data Science projects that I put together (if I get around to that part).

> **Lucas' pronouns ...**
>
> are best used in sentences like: **he** is incredibly talented. **His** experience and skillset will be a great complement to our team; we should hire **him**.

Summary

I got my start in finance 7 years ago… I broke from my studies in theoretical physics to take a seat on the trading floor of a major Canadian bank. During the two summers spent there, I simultaneously learned about Equities Trading, Python, and to always be watchful for errant nerf balls. Since then, I've taken on a number of roles across TD Securities with a focus on Quantitative Analytics and Data Science, always with a grounding in Technology.

More and more I see the power of outsiders in this industry, where unconventional backgrounds and broad skillsets catalyse big successes. I'm happy now to be bringing some otherworldly thinking to the stellar TD Securities Data & Analytics team as VP - Data Science Engineering.

Contact

I'm generally interested in contributing to innovative organizations through partnership, collaboration, and teaching. Reach me by the digital channel of your choosing:



Work Experience

TD Securities (2016-)

I have been working in various Technology roles with the Toronto-Dominion Bank since 2016. During this time I've had the chance to grow as a Technologist, Data Scientist, and Finance professional. Some things that tie these experiences together are always jumping at opportunities to build community through shared knowledge and active teaching, and promoting a culture of ownership through evangelism.

Vice President - Data Science Engineering (2020-)

Head the Data Science Engineering team in TDS Technology, designing, building, and evangelizing platform tools for data science and analytics. This role has remits to lead both the Python/Notebooks Infrastructure and Data Science Technology teams.

Software Engineer Technical Lead (2019-2020)

Architect and lead engineer of the TD Securities data science end-user computing and app deployment environment (JupyterHub+), bringing together a combination of tools and workflows in order to provide data analytics and rapid prototyping capabilities for users of all levels of technical skills.

- Python
- OAuth
- Dashboarding and prototyping: Plotly, Dash, Flask

During this time I received the two top awards that a TD Securities employee can be awarded:

- TDS Pinnacle Award of Achievement, which recognizes the best of TD Securities
- TD Vision In Action Award, a once in a career award presented to the best 1 in 1000 across the entire Toronto-Dominion Bank

Software Engineer (2018-2019)

Driving the design and development of an enterprise Data Science Platform. Grew this platform into a central tool for analytics dealer-wide through constant evangelism and close work with stakeholders.

- JupyterHub: `tornado`
- Spark SQL
- Python library design

I was fortunate to be able to speak about this journey in the 2019 Python Canada Conference, PyCon CA

Quantitative Developer Associate (2016-2018)

Responsible for development and implementation of sophisticated derivatives pricing and risk models with a number of quantitative analytics teams across TD Securities.

During this time I also led the self-organizing Knowledge Academy to promote regular Lunch n' Learns for fellow associates, including a talk on Monte Carlo Methods

AI Deep Dive (2019-2020)

Instructor

As part of the AIDD Bootcamp, I designed and facilitated workshops diving into Visualization and Rapid Prototyping for Data Scientists. The core course materials are available here and cover:

- Jupyter Notebooks
- Static Visualization with `matplotlib`, `seaborn`
- Interactive Visualization with `ipywidgets`, `plotly`
- Dashboarding with `voila`, `dash`
- Deploying To The Cloud with binder and heroku

YorkU Physics (2014-2016)

Teaching Assistant

As a teaching assistant, I needed to maintain a broad knowledge of general science. This ranged from specific knowledge in undergraduate physics in order to mark a large volume of assignments and exams to practical knowledge used to run laboratory sessions, to general scientific knowledge used to lead an environmental science tutorial class for non-science students.

I worked to promote a holistic understanding of difficult topics through the use of qualitative, quantitative, analytic and synthetic thinking while efficiently assessing a high volume of studentproblem sets and assignments.

National Bank Financial Markets (2014-2015)

Application Analyst

Develop and deploy analytics and visualization tools to report on equities trading using a variety of tools:

- Python: Pandas, Beautiful Soup, SQLAlchemy, Bokeh
- Javascript: AngularJS, d3.js
- Tableau

Education

York University

MSc., Theoretical Physics

Major Research Project: inSIDious Matter

Throughout my graduate education I participated in a battery of challenging theoretical coursework, while balancing teaching responsibilities as well as the development of my original research. The focus of my major research project pertained to the frontier of new physics and required a broad knowledge of concepts from mathematical frameworks, to physical observations and numerical analysis, through in-depth coding in a handful of languages.

Spending a significant amount of my time conducting independent research has had a huge impact on my development, forcing me to hone a wide variety of skills and solidify a strong work ethic.

Perimeter Institute

Visiting Researcher

Visiting the Perimeter Institute for Theoretical Physics (PI), I was able to collaborate and engage with a collection of the top minds in theoretical physics today. My time was spent pursuing my research as well as in sharing ideas and participating in the wealth of seminars, lectures, and tutorials both through the Perimeter Scholars International programme and the PI as a whole.

University of Toronto

HBSc Joint Specialist, Physics & Philosophy

My education focused around the intersections between Physics & Philosophy. I developed a deep understanding of the manner in which strict formalism in science blossoms in the presence of an open and self-critical perspective. By continuously questioning one's own methods and practices and investigating their connections with the big picture, one can greatly increase their own effectiveness.

By Lucas Durand