

Lucas Durand

Technology Solutions
Associate

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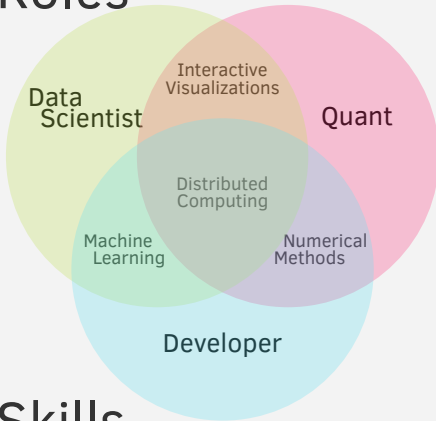


github.com/lucasdurand



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Roles



Skills

Statistical Analysis Business Acumen
Spark MLLib Hadoop Quantitative Re-
search Teaching Agile Atlassian Monte
Carlo Angular.js Pandas Multinomial
Tree PoC Stochastic Calculus ChatBots Cap-
ital Markets Predictive Models

Interests

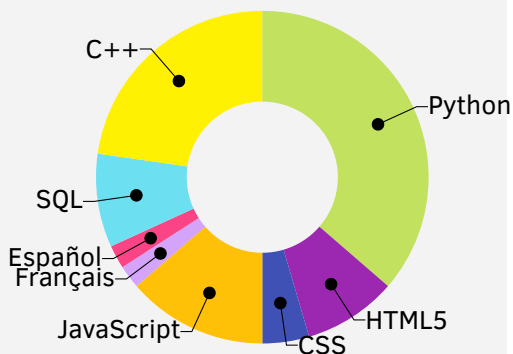
Big Data

Visualisation

Quantitative Modelling

Machine Learning

Languages



Experience

Aug 2017 -
Feb 2018

Quantitative Developer - Associate

TD Securities

Quantitative Modelling & Analytics Group

- Responsible for development and implementation of sophisticated derivatives pricing and risk models, exposing functionality to Excel and Java (C++, Java)
- Led Machine Learning group learning course available bank-wide. Covering key Data Science techniques and ML models, with cap-stone project and NLP Data Hackathon team participation
- Develop network of Chatbots, providing easy access to a variety of useful data and algorithms

Feb 2017 -
Aug 2017

Quantitative Developer - Associate

TD Securities

Treasury Analytics Group

- Leverage data visualization tools to deliver interactive mortgage-backed security (MBS) valuation module to business leaders (Matplotlib, Seaborn, Plot.ly)
- Benchmark and stability testing of quasi-Monte Carlo method allows for Key Rate Vega and Convexity hedging (Pandas, C++)
- Presented *Lunch n' Learn* utilising Jupyter RISE to deliver real-time code execution and animations
- Courses Completed:
 - Udemy - Data Science and Machine Learning with Python
 - Udemy - Taming Big Data with Apache Spark and Python

Jul 2016 -
Feb 2017

Business Systems Analyst - Associate

TD Bank Financial Group

Enterprise Fraud Analytics Program

- Subject Matter Expert (SME) for Identity & Access Management. Developed Role-Based Access Management tools to automate RBAC reporting (Pandas, Excel, Selenium)
- Completed Courses:
 - Global Knowledge - IBM BigInsights Foundation with Hadoop
 - Coursera (Columbia University) - Financial Engineering and Risk Management Part I

Research

2014 - 2016 Major Research Project

Tulin Research Group

inSIDious Matter

- Phenomenological exploration of a particle physics model for an inelastic self-interacting dark matter (Mathematica, Scipy)
- Theoretical formulation of scattering quantities by tensor calculus and numerical partial-wave analysis

Education

2014 - 2016 MSc., Theoretical Physics

York University, Perimeter Institute (PI)

Toronto/Waterloo, Ontario, Canada

TA: Engineering/Physics Lab; Science, Technology & the Environment

2009 - 2014 BSc., Physics & Philosophy

Trinity College, University of Toronto

Toronto, Ontario, Canada

Senior Thesis – Graphene: Hartree-Fock Analytics and Numerics