

# Lucas Durand

Full Stack Data Scientist

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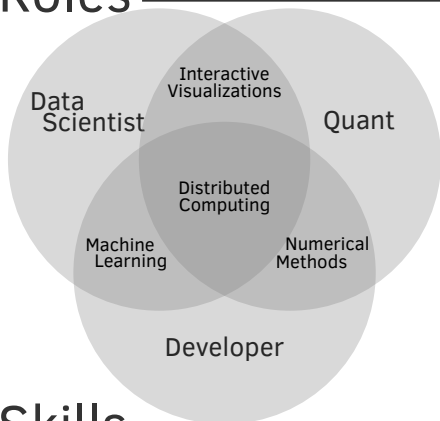


lucasdurand.xyz



lucas@lucasdurand.xyz

## Roles



## Skills

Statistical Analysis Spark ML Hadoop  
API Teaching Agile Jupyter Monte  
Carlo Pandas Trees Stochastic Cal-  
culus Rapid Prototype ChatBots Cap-  
ital Markets Predictive Models Dash Plotly

## Interests

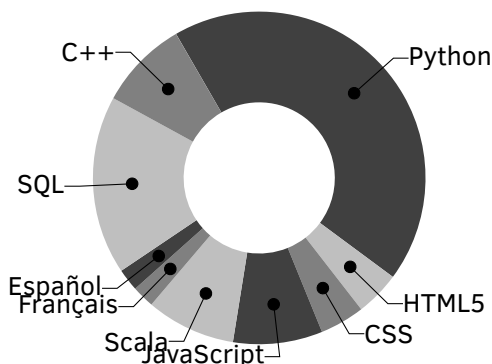
Big Data

Visualisation

Quantitative Modelling

Machine Learning

## Languages



## Experience

Feb 2018 - Present

**Data Science Tooling Lead**  
DeepGreen Data & Analytics

TD Securities

Python

- Python subject-matter expert for TDS Technology Solutions
- Toronto Team Lead, managing engineers and data scientists
- Develop and maintain suite of data science tools
- Grow to 100+ daily active users in 18 months

JupyterHub

Flask, Dash  
Scala, Spark

- Architected a rapid prototyping pipeline to take solutions from *ideation to realization*

### • Data Science Projects:

Act as internal consulting data scientists, partnering with teams across the organization to design and execute data science solutions covering a wide variety of use cases and approaches. Some highlights: recommendation engines, named entity recognition, trees, trees, trees.

Sep 2019 - Present

**Data Scientist**  
AI Deep Dive

AI Deep Dive

Design and facilitate workshops as a part of the AI Deep Dive data science immersion program. We dive into techniques to better understand data through quick visualization, learn to use libraries and tools for engaging in rapid prototyping, and a focus on letting your data tell its story. By the end of the workshop we have built stunning visualizations and deployed them to a permanent home in the cloud.

Jul 2016 - Feb 2018

**Quant Developer Associate**  
Quantitative Modelling & Analytics Group  
Treasury Analytics Group

TD Securities

C++  
Java

- Responsible for development and implementation of sophisticated derivatives pricing and risk models, exposing functionality to Excel and Java interfaces

Boost

- Implement wrapper to expose quant library to Python, integrate with large-scale library

Pandas  
seaborn

- Leverage data visualization tools to deliver interactive mortgage-backed security valuation module to business leaders
- Benchmark and stability testing of quasi-Monte Carlo method allows for Key Rate Vega and Convexity hedging

### • Data Science Projects:

- Led Machine Learning group learning course. Covered key data science techniques with ongoing projects
- Winner of TD Bank's Data Hackathon with development of novel model to predict customer life moments
- Develop network of chatbots, providing easy access to a variety of useful data and algorithms

## Education

2014 - 2016

**MSc., Theoretical Physics**  
Toronto/Waterloo, Ontario, Canada

York University, Perimeter Institute (PI)

Major Research Project: *inSiDious Matter* with Tulin Research Group

2009 - 2014

**BSc., Physics & Philosophy**  
Toronto, Ontario, Canada

Trinity College, University of Toronto

Senior Thesis – Graphene: Hartree-Fock Analytics and Numerics

## Things I Like Right Now

**Web Apps With "Just" Python:** Anvil - WYSIWYG platform, and Plotly Dash - beautiful interactive visuals and dashboards with minimal code

**Neural Ordinary Differential Equations:** ODEnets - powerful new technique for framing deep learning problems as ODEs