



Vivek Menon

DATA SCIENTIST · AI RESEARCHER · TECHNICAL LEAD

Toronto, Canada

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Summary

Data lead driven by solving business problems with intelligent software. 3+ years of leading remote & local teams to solve problems across multiple verticals, specializing in exploratory data analysis, machine learning, blockchain research, and serverless architecture. Big fan of fractals, (quantitative) finance, functional programming, & cats.

DATA

Python (**NumPy**, **Scikit-Learn**, **Pandas**, **Matplotlib**, **Seaborn**, **Keras**, **TensorFlow**, **Jupyter**, **PyTorch**), R (**tidyr**, **dplyr**, **ggplot2**), Julia (**IJulia**, **GladFly.jl**), Matlab, Big Data (**PySpark**, **Hadoop**, **Redis**, **ETL**), SQL (**PostgreSQL**, **MySQL**, **CloudSQL**), NoSQL (**MongoDB**, **DynamoDB**, **DataStore**)

DEPLOYMENT

Google Cloud Platform (**Compute**, **Cloud Functions**, **Cloud Run**, **PubSub**, **BigQuery**), Amazon Web Services (**EC2**, **Aurora**, **Redshift**, **Lambda**, **S3**), Firebase (**Functions**, **Firestore**), Kubernetes (**Docker**, **Shopify**, **Wordpress**), Linux (**Debian**, **Ubuntu**, **NixOS**), Vagrant, CI/CD (**TDD**, **Jenkins**, **CircleCI**)

DEVELOPMENT

Python (**Django**, **Flask**, **Requests**, **Coconut**, **Hy**), TypeScript (**NodeJS**, **Axios**, **Express**, **Lodash**, **Async.js**, **Request**, **PM2**, **Vue**, **REST/WebSocket API**), Haskell (**GHC**, **Stack**), Shell (**Bash**, **Zsh**), CSS (**Sass**, **Less**), Git, HTML, Clojure (**Aleph**, **Core.async**), LaTeX, Markdown, Microsoft Excel (**VBA**), Vimscrip, Elisp

Experience

Lake Finance

Toronto, CA

FOUNDER & CTO

May 2018 - Nov. 2019

Co-founded a fintech startup with a mandate to engineer a practical set of financial tools for decentralized currencies; scaled to 11+ team and a \$1.6M USD valuation through bootstrapping, open-source grants and consulting.

- Graduated from University of Toronto's inaugural Creative Destruction Lab (CDL) Blockchain-AI (BCAI) 18/19 incubator, raising \$100K at 6%.
- Launched invite-only beta (\$120K over 200 users) of Lake Wealth, which provided AI-driven cryptocurrency portfolios via an asynchronous set of Google Cloud Compute, Cloud Run, Datastore, CloudSQL & other microservices, to provide passive non-custodial investing.
- Wrote Hydra AI; a proprietary portfolio selection engine in Python 3 that searches via price momenta & genetic algorithms to hunt for alpha in extreme volatility (black swan) events, converging in multi-threaded $\mathcal{O}(n \log n)$, benchmarked with paper trades and live capital.
- Architected Lake Trade, an open source fault-tolerant Decentralized Exchange (dEX) allowing Ethereum users to trade ERC-20 / ERC-721 assets using the 0x V2 Protocol. Provided at cost & 0 fees for the Open-source community; raised \$100K grant from 0x Team to continue development in the blockchain and DeFi space.

Juniper Park \TBWA

Toronto, CA

STRATEGIC DATA SCIENTIST

Nov. 2016 - Apr. 2018

Led the Toronto division of the global TBWA Digital Arts Network (DAN) and Apple's Media Arts Lab (MAL) by providing multi-platform analytics, end-to-end data solutions, & bespoke measurement strategies.

- Built highly-available & scalable data pipelines across 3 zones in the TBWA Network to pitch & solve business problems for 10+ multinational clients, including NFL, Nissan, Pfizer & Apple.
- Supervised a \$2M Adobe Marketing Cloud stack for Capital Group / American Funds, optimizing analytics via human analysis and machine learning to convert investors & advisors and grow their \$1.3 Trillion AUM.
- Led a 3 person cross-departmental team in partnership with TBWA\CHIAT\DAY focused on discovering creative applications of AI, including experiments with artificially-generated creative content via TensorFlow Magenta.

JWT Mirum

Toronto, CA

DATA SCIENTIST

Jun. 2015 - Nov. 2016

Developed end-to-end data strategies for clients like UNICEF, McCain, & Getty Images often requiring database architecture, executive KPI frameworks, predictive modeling via machine learning, insight visualization & reporting.

- Built bespoke data solutions for 11+ clients, including new-to-market products such as Adidas (Avenue A) & Campari (Baron Samedi), alongside mature offerings like Montreal Canadiens (Club 1909) and Pfizer (Centrum)
- Worked within adhoc teams alongside strategic, creative & developer personnel to parse and pitch RFPs; acquiring 70% of businesses pitched on average.
- Analyzed social data across Twitter, Instagram, and Facebook for clients like TD, Walmart, & UNICEF using custom implementations of tools like PostgreSQL, Tableau, tidyR, Twitter Firehose, and Facebook GraphQL.

Grip Ltd.

Toronto, CA

DATA ANALYST

Jul. 2014 - Jun. 2015

Discovered, presented, and implemented data-centric strategies, with an objective to simplify objectives and tactics for local and international stakeholders.

- Tracked 400K+ anonymous users concurrently across digital properties by writing a custom implementation of Google Tag Manager, Omniture Analytics, & Google Analytics for the YUM Group (KFC, Pizza Hut, Taco Bell)
- Constructed 3-day automated KPI target generation system that tested & rendered a family of ARIMA models for Honda & Acura Canada using live sampled web data, for 12 internal stakeholders with unique KPI objectives.

Education

Udacity

NANODEGREE(S)

Mountain View, USA

September. 2017 - May. 2018

Member of some of the inaugural classes of the Nanodegree Program, as curated by Udacity, in partnership with IBM Watson, Amazon Alexa, Github, AT&T, OpenAI, & Google.

Apr. 2018 **Artificial Intelligence Nanodegree**, *sudokuAI, salesmanAI, nqueenAI, aslAI, pacmanAI, touristAI, faceAI, voiceAI*

Apr. 2018 **Web Development Nanodegree**, *linuxServer, itemCatalog, logAnalysis, movieTrailers, neighbourhoodMap*

Sep. 2017 **Deep Learning Nanodegree**, *introDL, cnnDL, rnnDL, lstmDL, qLearningDL, ganDL*

Sauder School of Business - University of British Columbia

Vancouver, CA

B. COMMERCE, DOUBLE MAJOR IN FINANCE & MARKETING WITH A MINOR IN ECONOMICS

September. 2010 - May. 2014

Graduated May '14 with a double specialization and minor with emphasis on financial engineering, marketing behavior, and multi-fractal analysis.

Research

Hydra AI: The Evolutionary Diversification Mechanism

Toronto, CA

AUTHOR

May 2018

A proposed solution to the *Offline Cardinality Constrained Multi Period Selection Problem*, as described via a patent-pending multi-agent adversarial solution that merges evolutionary strategies with probabilistic AI.

TaaS as a Service: A Monte Carlo Simulation

Vancouver, CA

AUTHOR

Jun. 2014

A simple simulation for Hootsuite to show the capabilities of the Monte Carlo model, as applied to traditional Software-as-a-Service metrics like LTV, CAC, MRR, & Churn, using an firm and a a programmatic Monte Carlo simulation for varying business conditions

Bitcoin Pricing & Volatility: A Multifractal Analysis

Vancouver, CA

AUTHOR

Oct. 2013

Explored if cryptocurrencies exhibit fractal properties like over-dispersion, long memory and self-similarity, in partnership with the UBC Finance Department.

Certifications

BUSINESS

Jun. 2018 **Artificial Intelligence: Implications for Business Strategy**, MIT Sloan Executive Education

Cambridge, USA

Nov. 2013 **Hootsuite Professional**, Hootsuite

Vancouver, CA

Sep. 2013 **Canadian Securities Course (CSC)**, Canadian Securities Institute

Toronto, CA

TECHNOLOGY

Aug. 2019 **Solutions Architect Associate**, Amazon Web Services

Toronto, CA

Aug. 2019 **Developer Associate**, Amazon Web Services

Toronto, CA

Aug. 2019 **SysOps Administrator Associate**, Amazon Web Services

Toronto, CA

Nov. 2014 **Web Analytics**, Google

Toronto, CA