

Education and Awards

McGill University - Graduated June 2017 (Montreal, Canada)

• **BSc. Major in Biochemistry** – 2015/2016 Academic Year GPA of 4.0, Cumulative GPA of 3.6

• Awards: McGill Scarlett Key Award, Emily Ross Crawford Scholarship, Alpha Sigma Scholar Award

United World College of South East Asia - International Baccalaureate (98th percentile with 42/45 IB points)

Aug '14 to
Jun '17

Jun '14

Technology and Business Experience

Bloomberg LP – Software Engineer (San Francisco, California)

- Part of the team building the **Bloomberg Quantitative Platform (BQuant)** - Quant engineers of Hedge Funds / Investment firms leverage **BQuant** to build analytical models and reports to make data driven investment decisions
- **BQuant** is a **full stack app** (React, Python & Golang API backends, Bloomberg BAS Service & Databases, AWS S3), managing projects running on **JupyterLab**, of which we build extensions and customizations for, becoming experts
- **Built the instrumentation telemetry pipeline of BQuant** which provides real time usage patterns to engineering and product leadership – **reduced user issue investigation time by 80%** & initiated conception of 2 new **BQuant** features
- **Embedded Bloomberg authentication state** into JupyterLab project context – allowing users to **access external Bloomberg resources (e.g. AWS hosted docs) without needing to re-login** – increased resource visitations 50%
- Oversee the agile methodology practices of my team (5 members) – lead sprint planning, backlog grooming & retros, my iterative process has improved work estimation accuracy and productivity (story point completion rate) by 30%

Nov '21 to
present

Index Exchange (IX) – Senior Software Engineer (Montreal, Canada)

Software Development Process (see projects below):

- Build and deploy **high-frequency-low-latency** solutions that power real-time advertising auctions, to distributed systems on 6000 LINUX servers in 10 DCs worldwide, processing **50+ billion requests and generating >1 TB a day**
- Gather requirements from product team, write design and testing specs, execute implementation and testing (**unit / regression / CI/CD pipeline**), and supply post push verification steps (**Bash / Apache Kafka**) to ops teams

Project Boomerang: Minimizing auction setup latency

- Discovered advertisers return **highest value bids** when given maximum time to respond (auction latency minimized)
- Using code profiling tools, identified various **Perl** auction setup workflows as optimization targets
- Designed an **experimental framework** to quickly build and deploy new experimental releases, paired with a real-time data pipeline (**Kafka / InfluxDB / Grafana**) to analyze optimization outcomes (advertiser bid response rates / spend)
- Identified a non-crucial service was triggering **non-voluntary context switches** during auction setup, and disabled it
- After MVP3 was deployed, setup latency **dropped by 40ms (25%)**, translating to \$110K / day ad spend increase

July '18 to
June '21

Other Key Involvements

- Bid Distribution: Built a **Python Kafka Consumer** analyzing auction dynamics & bidding behaviour. Used **NumPy** to design a **statistical algorithm** that produced a **competitive index (CI)** based on winning bid vs other bids distribution
- Reduced the mean price per ad and led to **10%+ savings for advertisers** (more auctions won with same budget).

SIMVO - Founder (Montreal, Canada) - Full-stack software services to third party clients

Kaj Medical: Oversee the development of the eKYC branch of KAJ's trade financing platform, automating due diligence of applicants. Implemented company email and website domain verification, user background & credit check, and an AI photo-recognition based document tampering detection system to verify validity of supporting documents.

SOAR: Built a consulting process automation system for improving business operations. Built a user survey UI workflow, a response scoring algorithm, which automatically generated business recommendations. Then implemented consulting follow up workflows such a zoom calendar booking system with real consultants if the clients desired a human's opinion.

Jan '18 to
present

Valuencer.io: Instagram influencer pricing tool with a **Vue.js** front end and **Python Flask** backend.

- Dashboard of interactive charts present historical post engagements (likes / comments),

Researchfdi.com: SME contracting SIMVO for their platform redesign. Used **HTML / CSS / JS / Bootstrap** to build a data analytics platform consumed by their clients and internal employees, netting **100K\$ per year** for FDI.

Microsoft Corporation - Associate for Canadian Enterprise Sales – Microsoft Federal Team (Ottawa, Canada)

- Supported the Federal Sales Office with weekly sales reports and dashboards, helping them reach the goal of streamlining the Government of Canada's Digital Transformation and attaining a **FY18 quota of over \$120M**.
- **Automated Contract Writer**: Built a program that drafts a Word Contract based on an Excel purchase order. Program has been deployed to MS's Software Reseller, cuts down contract writing time by 95%, and has **drafted over \$80M** worth of Microsoft Enterprise Contracts with Canada Government, **written in C#** (<https://youtu.be/mNUmPk79WII>)

June '17
to
Jan '18'

Languages: English (fluent), French (fluent), Mandarin Chinese (intermediate)