Michael Song

CONTACT

📞 647-920-0126

✉ mjysong@gmail.com

🏠 michael-song.com

github.com/michaeljsong99

EDUCATION

BACHELOR OF COMPUTING AND FINANCIAL MANAGEMENT
University of Waterloo
Sep 2017 – Apr 2022

- Computer Science & Finance
- Cumulative Average: 84%
- Dean's List Recipient
- President's Scholarship
- CFM Program Scholarship
- Object Oriented Design
- Data Structures & Algorithms
- Probability & Statistics

SKILLS

Backend Stack:
   Python 3, Java 8, JavaScript (Node), C++
Frontend Stack:
   React & Redux, HTML & CSS
Infrastructure Stack:
   Relational Databases (PostgreSQL, MySQL), AWS (Boto3, S3, DynamoDB), Git, Apache SOLR
Soft Skills:
   Problem Solving, Written & Oral Communication, Leadership & Teamwork, Receiving Feedback

INTERESTS

- Software Engineering
- Deep Learning
- Financial Technology
- Investing & Entrepreneurship
- Photography & Travel

PROFESSIONAL EXPERIENCE

SOFTWARE ENGINEER CO-OP
Boosted.ai / Toronto, ON / May 2020 – Aug 2020

- Developed full-stack client-requested applications & ad-hoc tools in multiple languages (Java 8, Python 3, JavaScript) in a start-up agile environment
- Deployed a RESTful API in Java, React & Redux allowing users to upload custom CSV stock data to run ML inference on; used by c. 60% of clients
- Optimized search bar efficiency by c. 3x and displayed most relevant stock suggestions by implementing a trie; greatly improved UX by eliminating lag
- Constructed a scalable pipeline to ingest 5GB+ of data on 2000+ U.S. options from AWS S3 cloud storage using boto3, perform data cleansing using multiprocessing, and upload documents to SOLR Zookeeper via cURL
- Designed a web-scraper with BS4 and Google Sheets API to find and report delta in stock indices; detected 95%+ of S&P 500 constituent changes
- Reduced runtimes on daily Cron Jobs by 15x by replacing iterative SQL insert queries with JDBC Batch Updates to insert records in Postgres database

VENTURE CAPITAL INTERN
Khazanah Americas / San Francisco, CA / Sep 2019 – Dec 2019

- Advised entrepreneurs on what product features, marketing strategies, monetization plans, and sales channels would likely garner VC investments
- Identified key consumer trends (personalized healthcare, peer-to-peer sharing, entertainment spending) to define theses for future investments

QUANTITATIVE FINANCE & RISK PREMIA ANALYST
Canada Pension Plan Investment Board / Toronto, ON / Jan 2019 – Apr 2019

- Conducted backtesting of time-series FX strategies; discovered 90+% correlation with similar commodity strategies proving no arbitrage existed
- Created a graphing application using C++ & SFML graphics library to process c. 5million of historical trades and display portfolio profit-and-loss by category
- Automated portfolio rebalancing using Pandas, NumPy and sqlalchemy libraries, crafted GUI with Tkinter; cut 15 min. process down to 1 min.
- Authored unit testing to validate Bloomberg data ingestion infrastructure

EQUITY ANALYST
Mawer Investment Management / Calgary, AB / May 2018 – Aug 2018

- Completed 8 equity research reports on Asia, Europe & Canada stocks by constructing DCF financial models and interviewing C-suite executives
- Invested c. $15m of client capital, returning over $1m in investment returns

ACTIVITIES & PROJECTS

PROFESSIONAL CHESS

- Author: "*The Chess Attacker's Handbook*" – sold $28,000 in first 3 months
- Competitor: Former World Youth ranked #3, International Master, Gold at 2017 Pan-Am U-18 & 2016 N. Am. U-18 Championships
- Coach: Head Coach of Team Canada at 2017 World Youth Championships

SOFTWARE DEVELOPMENT & PROGRAMMING PROJECTS

- Coding a tool which generates text-searchable PDF documents from image (text-less) documents, using PyTesseract, PyMu, and Fitz
- Created a screener to track sentiment from r/wallstreetbets and suggest trades, using Pushshift, Flask & DynamoDB; outperformed market by 40+%
- Programmed a chess engine with React JS and Python; implemented minimax search with alpha-beta pruning; hosted on Heroku & Firebase
- Designed a Quality Factor to systematically trade U.S. equities using 5 valuation metrics; 15.7% Ann. Return, 0.89 Sharpe, 0.86 Beta (2005-2019)