SIYANG ZHANG

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EDUCATION

Northeastern University — Vancouver, Canada
Master in Computer Science; GPA: 4.0 / 4.0 — *Jan. 2021 - Today*

Harbin Institute of Technology — Harbin, China
Bachelor in Financial Management; GPA: 3.7 / 4.0 — *Sept. 2014 - July. 2018*

Relevant Coursework

- Algorithms
- Analysis of Algorithms
- Data Structures
- Computer Architecture
- Computer Systems
- Database Systems
- Computer Networking
- Compiler
- Distributed Systems
- Operational Research

SKILLS

- **Languages**: Java, Go, Python, TypeScript, SQL, C/C++, HTML, CSS, JavaScript
- **Development**: Distributed systems, Microservices, Object Oriented, Relational Databases, RESTful Routing, CI&CD
- **Tools and Technologies**: AWS, Spring, React, Redux, Git, Docker, Kubernetes, Node, Express, JSON

PROFESSIONAL EXPERIENCE

- **Ping An-UOB Fund** — *Shenzhen. China*
  Quantitative Analysis Intern, Research and Development Department — *Jan. 2017 - Mar. 2017*
  - Applied financial data analysis and performed earnings & growth forecast
  - Processed and visualized data of price movement with Python
  - Calculated insurance premiums and provided settlements of claims in Beijing Subway Line 19 Bidding Project and Renewal quotation project for an automobile factory of Foton Daimler
  - Conducted research on assets portfolio and designed trading strategy in R to build insured portfolio and achieved delta hedging

ACADEMIC EXPERIENCE

- **Finance Risk Analysis**: Classify Moody's credit rating of 1700 firms based on 26 financial metrics — *Nov. 2018*
  - Using L1 regularization as feature selection technique to reduce from 33 features to 15 features
  - Conducted majority voting using logistic regression, decision tree and kernel SVM to achieve 80% accuracy with 3%variance, leading to better bias and variance trade off
  - By parameter tuning and ensemble, bagged random forest model managed to achieve 87.1% accuracy classifying(baseline accuracy 70%) Investment Grade (binary classification) and 62.4% accuracy(baseline accuracy 20%-30%) to classify Moody's score (multi-class classification)

PROJECTS

- **Database System**: Built a fully functional, optimized database that could perform both simple and nested correlated queries — *May. 2020*
  - Implement a parser for SQL statements and wrote an index system with B+ tree
  - Added in logic for joins (partial, inner, outer, equ-joins, etc)
  - Transformed incoming queries into relational algebra and performed Selinger optimization to find the best way to compute the query results given the sizes and clusterings of each dataset involved
- **BearMaps**: A web mapping application similar to OpenStreetMaps — *Jan. 2020*
  - Developed backend for a web mapping application with Java and parsed XML files
  - Supported features include scrolling, zooming, and route finding using the A* search algorithm
  - Created a quad tree to filter through thousands of images and raster the appropriate images
- **Ticketing App**: Full stack development of an E-Commerce App using Microservices with Node, React, Docker and Kubernetes — *Sep. 2019*
  - Use React, Hooks and Next JS to provide features include client registry, order booking and payment and JWT-based authorization.
  - Architect a multi-service application, support async, event-based communication between services. Each service is created by Node and Express. Data for each service is held in Redis.
  - App is written with Typescript, deployed and run in Docker containers executed in Kubernetes cluster, enhancing scalability and reusability.
- **YelpCamp**: Full stack of web development (a Yelp.com style website for campgrounds) — *Feb. 2019*
  - Supported full CRUD features such as user log in, posting review and comments, and editing previous submissions
  - Used Bootstrap, the Express framework, NodeJs, and MongoDB database
  - Designed and implemented MongoDB infrastructure to store reviews/comments data and relevant information associated with users and campsites