

Luke Zhang

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EDUCATION

University of Toronto: Fourth Year

BSc in Computer Science Coop GPA: 3.72/4.0

Toronto, ON

Expected Graduation: June 2022

EXPERIENCE

Scotiabank

Toronto, ON

Software Engineer Intern - Velocity Program

Sep 2019 – Dec 2019

- Provisioned CentOS development environments to implement CI/CD and reduced development time
- Automated dashboards of lead time, deployment frequency, and analytics on level 3 service tickets
- Received VP praise for presenting department metrics to 200 employees enabling data-driven improvement
- Placed 2nd in Intern Hackathon, receiving 3 Amazon Fire Tablets
- **Tools:** Python, Shell, YAML, Docker, InfluxDB, Grafana, Ansible, Vagrant, Git, Jenkins, ServiceNow

International Financial Data Services

Toronto, ON

Software Engineer Intern

Jan 2019 – Apr 2019

- Developed Shell and Java incremental compilation software in 4-person Agile Scrum team
- **Tools:** Apache Ant, Make, C, JUnit, Tomcat, Git, Jenkins, Progress ABL, Eclipse

PROJECTS

Collaborative Code Editor (CodeCollab)

- Setup three-tiered MERN (MongoDB, Express, React, Node) architecture on DigitalOcean droplet
- Routed HTTP and Web Socket requests to frontend/backend using Nginx reverse proxy
- Received praise from professor for this class project totaling 500+ combined hours and ended with 4.0/4.0
- **Tools:** MERN, GraphQL, TypeGraphQL, TypeScript, Tailwind, ShareDB, Cloudflare, Tesseract OCR

Restaurant Loyalty System (PickEasy Rewards)

- Developed the winning gamified loyalty system in a contest for a real-world client, PickEasy
- Awarded 1st Place project in SoftEng course receiving a 5% grade increase and ended with 4.0/4.0
- **Tools:** MEAN (MongoDB, Express, Angular, Node), REST, QRCode, Jasmine, Heroku, Amazon S3

Machine Learning

- Leveraged many machine learning models in real-world scenarios, completing 200+ hours of work
- Removed red text from images using 2D regularized Radial Basis Function (RBF) Regression
- Classified types of wine using Multiclass Logistic Regression and Gradient Descent
- Predicted loan payback likelihood using K-fold Cross-Validation and Random Forest with 7 hyperparameters
- Clustered documents based on word frequency using Gaussian Mixture Model and K-Means++
- **Tools:** Python, Numpy, Pickle, Matplotlib, Scikit-learn, Jupyter

Algorithms

- Rigorously proved the correctness of dozens of algorithms, completing 500+ hours of work
- Divide-and-Conquer: Karatsuba, Fast Fourier Transform, Order Statistics
- Dynamic Programming: 0/1 Knapsack, Edit Distance, Bellman-Ford, Floyd-Warshall
- Other Categories: Greedy, Max-Flow/Min-Cut, Linear Programming, Approximation Algos

ADDITIONAL

- Relevant Coursework: Data Structures and Algorithms, Databases, Web Programming, Machine Learning
- Programming Languages: Python, C, Java, Shell, HTML/CSS, Javascript, NodeJS, SQL, NoSQL, R, Haskell