

# CHUNQING (TONY) LIANG

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## EDUCATION

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### University of British Columbia (UBC)

*Bachelor of Science in Mathematics and Statistics, Minor in Data Science*

Vancouver, BC

Sep 2020 – Nov 2023

Relevant Courses: Applied Linear Algebra, Methods in Statistical Learning, Software Construction, Introduction to Stochastic Processes, Reproducible and Trustworthy Workflows, Statistical Inference in Data Science.

## EXPERIENCE

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### St. Paul's Hospital – Centre for Heart Lung Innovation

*Machine Learning Developer*

Vancouver, BC

Sep 2022 – Present

- Initiated Nextflow pipeline to benchmark 50 ML methods (classification, regression) against multi-omics data.
- Automated 25+ HPC jobs and reduced memory usage by 50% with 3 shell scripts using Singularity containers.
- Analyzed 6 ML methods in Python, R, C++ used on single cell multi-omics data and turned into literature reviews.

### UBC Department of Statistics & Computer Science

*Undergraduate Teaching Assistant*

Vancouver, BC

Sep 2022 – Present

- Reviewed 7+ R/Shell scripts codes per 52 students weekly with Makefile and GitHub actions.
- Answered 800+ students questions from Data Science and Introductory Statistics daily on discussion forum.
- Implemented 4 scripts (mix of Python, R, shell script) to automate grading processes for the Instructor's team.

### UBC Carrillo Plant-Insect Ecology & Evolution Lab (PIEE) – Sticky Pi

*Computational Entomology Research Assistant*

Vancouver, BC

May 2022 – Sep 2022

- Built deep learning model with PyTorch to recognize pollens on 1200+ high-resolution images with 94% accuracy.
- Parallelized 32 model trainings with Compute Canada's HPC and saved 40+ hours of computation times.
- Developed Android App to handle 2500+ images from Sticki PI devices and sync through Amazon S3 buckets.

### TD Bank Canada Trust

*Customer Experience Associate*

Burnaby, BC

Jun 2021 – Apr 2022

- Communicated effectively with 4 departments to define new process improvements.
- Assisted customer in addressing concerns, and resolving issues in accordance with company policy.

## PROJECT

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### FIFA22 Ultimate Team Recommender | Python, R, AWS DynamoDB, Jira & GitHub

- Wrote Python script to auto-sync JSON data to AWS Dynamo DB and saved 25MB memory space.
- Managed group of 4 effectively with Jira applying Agile Development on the project.
- Parallelized web scraping Python script of 12,000+ FIFA players statistics, reduced time from 20 mins to 5+ mins.
- Optimized time and space using hash-like data structure to save data, and reduced RAM usage by 87%.
- Designed recommender system to find 10 similar lower replacements of user choice's player based on 42 attributes.

## SKILLS

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**Programming Languages:** Python, R, SQL, Nextflow, Java, JavaScript, Shell, MATLAB, C++, Groovy

**Developer Tools:** Git, Docker, Linux, AWS, Visual Studio, Jupyter Lab, Power BI, AndroidStudio

**Soft Skills:** Analytics & Advisory, Inclusive Teamwork, Communication & Collaboration, Business Case Study

**Languages:** English, Mandarin, Spanish, Cantonese, French (Limited Work Proficiency)