

Estella Liu

✉ o3liu@edu.uwaterloo.com ☎ 778-869-9027 🌐 estella98 in Oujing(Estella) Liu

SKILLS

- C • C++ • Java
- Swift • Scheme • SQL/TSQL
- UiPath • VB.net • Bash
- HTML • CSS • JavaScript

TECHNOLOGIES

- AWS • Databricks • Jupyter Notebook
- Atlassian • Microsoft Office • Vim
- Git • Linux • Agile/ Scrum

AWARDS

MICROSOFT DISCOVER AZURE COMPETITION SILVER MEDAL
Prototyped "Heare" AI chatbot that provided mental health care for university students

2017 UBC PHYSICS OLYMPICS BRONZE MEDALIST
Competition involves aircraft modelling, experiments and knowledge contests

SCHOOL CHAMPIONSHIPS /DOMESTIC STUDENT HONOUR ROLL
Euclid, CSMC, Hypatia, Galois

EDUCATION

UNIVERSITY OF WATERLOO
CANDIDATE OF BACHELOR OF COMPUTER SCIENCE
Cumulative GPA: 3.9 / 4.0 |
President's Scholarship of Distinction
Faculty of Math Scholarship

COURSEWORK

UNDERGRADUATE

Algorithms
Data Structures
OOP
Calculus
Linear Algebra
Probability
Statistics
Financial Math
Public Speaking

SUMMARY OF QUALIFICATION

- 3 years of development experience in OOP, imperative and functional programming
- Excellent time management & communicationskills with years of teamwork experience
- Quick and motivated learner with curiosity to explore creative ideas and solutions

PROFESSIONAL EXPERIENCE

INNOVATION DEVELOPER Swift, ARKit, MySQL, PySpark, AWS, Databricks
Zero Gravity Lab (LoyaltyOne), Toronto, ON Jan. 2019 – April. 2018

- Full stack **Mobile** developer of an IOS **Augmented Reality** app to provide an immersive in-store Air Miles collecting experience
- Implemented and presented full data collection routine in Amazon using **RDS, Lambda, API Gateway** and **REST** Architecture
- Experimented with **Node2Vec Neural Network** in Databricks that captures item relationship among over 40,000 products for recommendations
- Conducted innovative research on front edge technologies & Authored technical docs

RPA DEVELOPER SQL, VB.net, UiPath, CSS, ElasticSearch, Atlassian
The Co-operators, Kitchener, ON May. 2018 – Aug. 2018

- Built data management accounting tools using **mySQL, Vb.net** and **UiPath** to automate billing process and reduce processing time from hours down to several minutes
- Created responsive frontpages using CSS and JavaScript to showcase incubator group
- Contributed to the team's agile process using **Atlassian** tools(JIRA, BitBucket, Confluence)

MATH CLUB PRESIDENT Heritage Woods Secondary School, Vancouver, B.C

- Initiated first inter-school advanced math program in school district
- Hosted weekly workshop & wrote supplementary curriculum

PROJECTS

GOBANG AI (C++) a multi-mode Gomoku game with reinforcement learning capacity

- Applied **conditioned reinforcement** algorithm learning long term gaming strategy
- Installed and performed crud operations on **LevelDB** to access historical game data for AI module training
- Currently implementing low latency WebSocket for real-time online mass multiplayer game functionality

PITCH PERFECT (JAVA) an application that uses signal detection to train the pitching accuracy

- Applied **YIN & AMDF** pitch detections to recognize the frequencies of human voices
- Instantaneous pitch conversion and **real-time** display of a note graph on the **JavaFX** platform with precision down to millisecond
- Capable of pre-demo with Java synthesis sound and support comparison with standard notes to enhance users'singing ability

STEAM RECOMMENDER (PYTHON) an ML project based on Steam dataset

- Included popularity based and collaborative filtering methods (**SVD, Spark ALS** and **TuriCreate item similarity**) for user and game embeddings
- Evaluated and compared different approaches using **precision recall** and **hit ratio metrics** to optimize the model
- Working on the extraction of game tags using python scripts/ Steam API to support content based filtering