Andrew Yiwen Xu

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Education

University Of Waterloo **Sep. 2020 – May 2025**

Bachelor of Mathematics In Computational Mathematics, Honours Co-op *Waterloo, ON*

- Relevant Coursework: C++ and OOP, Data Types and Structures, Computational Linear Algebra, Network Flow Theory

Skills

- **Languages**: Python, Go, Java, JavaScript, C++, Kotlin, SQL, Bash, MATLAB
- **Frameworks**: Django, Grails, GORM, gRPC, GraphQL, REST, PyTest
- **Infrastructure**: AWS, Docker, Kubernetes, Jenkins, Google Cloud Pub/Sub, Protocol Buffers, MongoDB

Experience

Favorite Medium (working with TuneIn Inc) **Jan 2023 – Apr 2023**

Software Engineer Intern *Remote*

- Used **Java (Kotlin)** in an MVVM structure to create custom view components for badging and customizing TabLayouts to spec throughout the TuneIn application.
- Designed TTL policies to automatically manage the lifecycle of audiobook data by building **SQL** queries and a worker for flagging and deleting after a certain time period has elapsed.

Achievers Inc **May 2022 – August 2022**

Software Engineer Intern - Binary Experience *Toronto, ON*

- Improved accessibility of the notifications interface for clients by revamping the platform notifications microservice on the backend using **Python (Django)**.
  - ∗ Created batch publishing for push notifications by incorporating the **Google Cloud Pub/Sub** framework to create the required topics and subscriptions with **Docker** and **Kubernetes**.
  - ∗ Spearheaded design of **gRPC** endpoints using **Protobuf** for notification functionalities such as sorting, notification relevancy, and CRUD operations.
  - ∗ Implemented all integration and unit tests using **PyTest** and leveraged **Kubernetes** to conduct tests ensuring full coverage and seamless functionality.
  - ∗ Enabled over **8000+** users across **33** enterprise customers to manage user interactions efficiently by building a new RESTful service for push notifications.
- Integrated event logs for syncing user emails from the company service to the **Iterable API**.
  - ∗ Implemented checks to rollback outdated API calls from concurrent requests to ensure emails stored in Iterable is identical to emails in the user table.
- Maintained a **SQL** database by normalizing the data schema on user tables, preventing potential breaking changes for customers migrating to a newer version of the application.
- Inherited responsibility for onboarding and mentoring new interns.

Exponet Canada Inc **Sept 2021 – Dec 2021**

Full-Stack Developer Intern *Mississauga, ON*

- Incorporated **6** complete end-to-end features for a logistics management application, utilizing **React Redux w/Sagas**, **Java (Grails with GORM framework)**, and **Mongo Compass**.
- Reduced customer friction by centralizing package modification options for orders from Amazon.com such as fetching, rating, voiding, and printing shipping labels using the Amazon Marketplace Web Service API.
- Streamlined international shipment logistics by building a feature that generates customs declaration forms for orders using the **PDFBox API** and leveraging information from automated presets for products
- Enhanced inventory data by dynamically updating stock through an aggregation of over **5000+** items.

Projects

Biquadris | *C++, Bash* **January 2021**

- Created a rendition of the game Tetris with C++, using MVC with an observer design pattern and used Bash to create and run test cases.

Expense Manager | *Java* **August 2020**

- Developed automations in Java to dynamically generate weekly expense sheets from templates
- Used pattern recognition for detecting date formats and modifying them to the respective time and cleared filled cells for columns used to calculate expenses.