

# Andrew Liu

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## Education

University of Waterloo, BSc in Computer Engineering Sept 2018 – May 2024

- **Coursework:** Systems Programming and Concurrency, Real-Time Operating Systems, Software Design and Architectures, Programming for Performance, Database Networks, Computer Networking

## Experience

Software Engineer, theScore – Toronto, CA Sep 2023 – Dec 2023

- Improved business-critical ingestion systems of **5** real-time sports data providers using **Elixir/Phoenix** and **Rails**, ensuring **99.9%** uptime and seamless data updates for **4.1 million** monthly active users on the premier sports media platform
- Streamlined data retrieval and improved developer debugging time by **15%** by designing and implementing a file-archiving pipeline for incoming payloads from data providers using **PostgreSQL** and **AWS S3**
- Integrated a sports data source via a **persistent SSE connection** in **Elixir**, enabling ongoing replay of historical NFL games to test the health of uninterrupted **real-time data ingestion** during core service updates
- Participated in an organization-wide migration of legacy ingestion to a parallelized cronjob system using **PostgreSQL** job queues, contributing to achieving **99%+** system availability and a **35%** increase in job throughput.
- Deployed data monitoring solutions using **Datadog** and **Splunk**, improving analytical insights by creating custom dashboards to oversee key performance indicators, data ingestion metrics, and service-level agreements

Backend Developer, Drop – Toronto, CA May 2022 – Aug 2022

- Reduced fraud rates by **60%** by designing and implementing a back-end service in **Rails** and **Postgres**, featuring a purchase limit check algorithm to protect the integrity of the loyalty-point system
- Enhanced internal admin portal by developing tools with **ActiveAdmin** and **Rails**, streamlining user management for marketing and customer service teams, boosting efficiency and customer engagement
- Increased user engagement by **80%** by enhancing existing models with critical fields to support new redemption items, improving functionality and user satisfaction
- Implemented test suites with **RSpec** and type checking with **Sorbet** to ensure code reliability

Full Stack Developer, XE.com – Newmarket, CA Sep 2021 – Dec 2021

- Enhanced performance and accessibility for **15+ million** users/month by optimizing asset sizes, implementing lazy loading, reducing page load times by over **30%** and increasing **Core Web Vitals** scores
- Revitalized IBAN pages by replacing legacy code, eliminating tech debt, and implementing **React** with **Next.js**, leveraging **Static Site Generation** to craft pre-rendered country pages for enhanced **SEO optimization**
- Designed and implemented a reusable information card component using **React** and **Next.js**, standardizing content layout across 50+ XE marketing pages, reducing development time for new pages by **30%**
- Reduced Cumulative Layout Shift (**CLS**) by **20%**, increasing visual stability across pages to improve viewing experience
- Improved user engagement and retention by **15%** modernizing XE's category pages in **Contentful**

Full Stack Developer, Remitbee – Mississauga, CA Sep 2021 – Dec 2021

- Built and optimized client portal in **React** and **Redux**, driving a **20%** boost in repeat transactions per user
- Optimized queries in a **MySQL** database to decrease core platform load times by **15%**
- Developed streamlined page templates with **React** and **Strapi CMS** by designing new components and refactoring existing code to be more dynamic
- Updated backend transaction flows using **Next.js** and **GraphQL** in preparation for new user group

## Technologies

**Languages:** JavaScript, Ruby, Elixir, Python, Java, TypeScript, HTML/CSS, SQL

**Technologies:** React, Redux, Rails, Phoenix Liveview, Docker, AWS, Next.js, Express, Node.js, Git, Redis, Sidekiq, PostgreSQL GraphQL