Arist Xu

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EDUCATION

University of Waterloo   Sep. 2020 – Apr. 2025
Bachelor of Computer Science, Honours   3.9 Cumulative GPA
- President of UWCSA, Project Developer for UW Blueprint, President's Scholarship of Distinction.
- Courses: Algorithms, Data Structures, Operating Systems, Database Management, OOP, HCI.

WORK EXPERIENCE

Super.com   Sep. 2023 – Present
Full-Stack Software Engineer Intern   San Francisco, CA
- Ensured data integrity for over **3,500 daily booking cancellations** by restructuring internal logging logic, enabling accurate analysis of cancellation requests and identification of supplier-related issues.
- Enhanced fraud detection for over **500,000** monthly orders by accurately pipelining booking data to Riskified.
- Developed an automated email system to instantly notify over **100** suppliers when **DataDog** raises warnings.

ODAIA Intelligence Inc.   Jan. 2023 – Apr. 2023
Software Engineer Intern   Toronto, ON
- Built and deployed data pipeline validation infrastructure to AWS ECS and used AWS S3 for storage, enabling automatic verification of over **100,000 data points** per project and increasing testing speed by **400%**.
- Developed an interactive Slack App with AWS Lambdas that communicates real-time data pipeline updates, increasing team velocity by saving up to **4 hours** of debugging per project.
- Optimized pandas data frames by down-casting NumPy data types and optimizing the order of SQL queries, reducing memory usage by up to **90%** and increasing processing speed by up to **300%**.

Sony Interactive Entertainment   Jan. 2022 – Apr. 2022
Software Developer Intern   Waterloo, ON
- Enhanced the PlayStation 4's search telemetry by transmitting user data payloads to backend analytics systems.
- Implemented dynamic rendering logic in response to events and product properties, debugging multiple visual defects and ensuring that expected details are shown to **millions of users** globally.
- Maintained the functionality and stability of features by developing an extensive **test suite** for visual changes.

Dataraction Inc.   May 2021 – Aug. 2021
Software Developer Intern   Markham, ON
- Built key components using **React.js**, **Material UI**, and **Redux**, including a chat box, user analytics dashboards, and interactive forms, streamlining the platform's design and increasing UI responsiveness.

PROJECTS

Relational Database from Scratch   github.com/Arist937/relational-database-cpp
- Creating an original relational DBMS in **C++**, currently supporting basic SQL and user-defined schemas for tables.
- Implemented binary serialization and deserialization functions to store data on disk and achieve **data persistence**.

Redis Clone   github.com/Arist937/redis-clone-cpp
- Engineered a Redis clone from scratch in **C++** using **network sockets** and supporting GET/SET operations.
- Implemented a dynamic **event loop** using system calls, enabling seamless management of concurrent connections.

Chrome-GPT   arist.dev/projects/chrome_gpt
- Developed a Chrome extension using **Flask** and **React.js** that allows a user to query any web page with OpenAI's GPT API by injecting relevant context into their prompt based on vector cosine similarity of text embeddings.

HTTP Server from Scratch   github.com/Arist937/http-server-go
- Built a server using **Go** that handles HTTP requests from clients and supports concurrent TCP socket connections.

TECHNICAL SKILLS

Languages: Python, JavaScript (TypeScript), C++, C, Go, Java, SQL, Racket.
Tools & Technologies: AWS, React.js (Next.js), Flask, Express, Node.js, NumPy, pandas, pytest, Git, Docker, Firebase, Firestore, Redux, Redis, Material UI, Jenkins, MySQL, PostgreSQL, Snowflake, Amplitude.