Rayman Huang

rayman.huang@mail.utoronto.ca | linkedin.com/in/raymanhuang | github.com/raymanhuang

Education

University of Toronto Toronto, Ontario

Bachelor of Applied Science in Computer Engineering *September 2021 – Present*

- cGPA: 3.41/4.0
- Relevant Coursework: Computer Fundamentals (C), Programming Fundamentals (C++, OOP), Digital Systems (FPGA, Verilog), Computer Organization (ARM Assembly, Processor Design), Software Design and Communication (C++ GIS Design), Data Structures and Algorithms, Operating Systems, Databases, Distributed Systems, Machine Learning, Probability and Statistics

Experience

Founding Software Engineer Jan 2025 – Present

ProfAI (profai.io) *Toronto, Ontario*

- Designed and implemented a **multithreaded Flask backend in Python** to convert PDF lecture slides into **AI-narrated videos** using **Gemini API** (script generation), **Google Cloud Text-to-Speech** (audio), and **Groq API** (subtitles), with real-time updates to **MongoDB** for progressive streaming.
- Optimized **concurrency** with slide-by-slide processing and **asynchronous job execution**, enabling users to begin consuming content while subsequent slides are still rendering.
- Developed a **full-stack web platform** using the **MERN stack**, integrating **Firebase Authentication** (Google, Apple, Email) and **Gemini-powered** components for quizzes, flashcards, and a context-aware AI assistant.
- Rebuilt the application in **React Native** for mobile, launched on **iOS and iPadOS App Store**, and integrated **Stripe**, **RevenueCat**, and custom **webhooks** for in-app subscription management.
- Scaled the platform to over **1,000 active users** and paying customers, improving **API throughput**, reducing **latency**, and ensuring **fault tolerance** in a distributed content generation pipeline.

Software Engineer Intern – PMF (Platform Management Framework) May 2024 – Present

Advanced Micro Devices (AMD) *Markham, Ontario*

- Developed and debugged **C++ kernel/user-mode** features for PMF using WDK, WinDbg, and HDT/HDS.
- Implemented ACPI-based power config features and authored internal developer documentation.
- Built a **Python Jenkins automation pipeline**, reducing QA test time by 3 days per release.
- Created an internal website with React and Plotly to visualize GPU metrics from Excel data in real-time.

Projects

Distributed Key-Value Store | *Java, TCP, JUnit Testing* January 2024 – April 2024

- Spearheaded development of a scalable, fault-tolerant NoSQL database using **TCP** sockets and **Java**, mirroring commercial database systems
- Utilized a **centralized authority** server with consistent hashing for load balancing and implemented **Paxos** Algorithm to achieve eventual consistency
- Formulated a comprehensive client-server protocol with advanced serialization and an integrated hashing layer for efficient data queries

TrueChamp (truechamp.io) | *Node.js, React Native, MongoDB, ExpressJS, LLMs* January 2025 – April 2025

- Built a social streak-tracking app where users join challenge-based parties and verify progress with AI-powered check-in photo validation using **Gemini 2.5**.
- Deployed mobile app to the Apple App Store via TestFlight, leveraging **Socket.IO** for real-time updates and **AWS S3** for image storage.
- Designed and implemented 25+ production-grade UI screens with **Figma**, **React Native**, and Reanimated, supporting an engaging and responsive UX.

Technical Skills

Languages: C/C++, Java, Python, PostgreSQL, JavaScript, HTML/CSS, ARM v7 Assembly, Verilog HDL, TypeScript
Frameworks: React, React Native, Node.js, ExpressJS, Flask
Developer Tools: Git, VS Code, Visual Studio, MongoDB, Valgrind, PyCharm, IntelliJ, Eclipse, Linux
Libraries: pandas, NumPy, Matplotlib, Mongoose, PyTorch