Kenny Cui

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Education

University of Toronto Sept. 2021 – June 2026 (Expected)
Bachelor of Applied Science in Computer Engineering *Toronto, ON*
Coursework: Data Structures and Algorithms, Operating Systems, OOP, Software Engineering, Computer Organization

Technical Skills

Languages: Python, C++, C, JavaScript, TypeScript, Bash
Frameworks/Libraries: React, Flask, gtest, Selenium, Pandas, axios, Poetry, SQLite
Tools: Git, AWS, Docker, GitHub Actions, Microsoft Azure, Jenkins, Jira, Linux

Work Experience

NVIDIA May 2024 – Aug. 2024
Software Engineer Intern - Diagnostic Software *Santa Clara, CA*

- Engineered a feature in **C++** to display register information for **980** diagnostic tests via the CLI, enhancing register validation efficiency and optimizing database workflows for **3** QA teams
- Expanded a **Python** regression framework for new SoC bring-up, saving **20+** hours weekly from manual testing and assisting in **4** software releases for silicon teams by automating diagnostic tests and firmware flashing
- Built the regression framework's nightly support as a **Jenkins** pipeline using **Jenkinsfile** to maintain its reliability
- Utilized **Docker** to containerize the regression framework's server and client sides, achieving homogeneous client environments and eliminating potential errors from setup discrepancies across **100+** client hosts on internal cloud

Advanced Micro Devices (AMD) May 2023 – April 2024
System Software Engineer Intern - x86 Firmware *Markham, ON*

- Designed a new memory initialization software architecture, creating **2** APIs in **C** to support **4** memory operations across different memory standards, enabling backwards compatibility for SoCs' memory functions
- Developed an API in **C** to facilitate the communication between **4** hardware IPs that provided a generalization layer to SoC specific code access which optimized original codebase by **6%** and enhanced scalability
- Built a **C++** tool that cut register abstraction development time by **25%** through extracting **250+** registers' details
- Implemented a **C** framework for **4** hardware IPs to create a layer of encapsulation between specific silicon initialization and open-sourced library code to enforce factory design pattern and provide portability of firmware

Extracurricular Activities

aUToronto - Self-Driving Car Team Sept. 2023 – Present
Software Developer

- Enhanced A* algorithm in **C++** to handle multiple start points and added distance-based target point planning
- Streamlined **6** unit tests in **gtest** with map switching and pre-test lattice deserialization for runtime optimization

IEEE University of Toronto Student Branch April 2023 – April 2024
Software Engineer

- Created 4 **Python** scripts with **Selenium** to collect **32,000+** images, contributing to successful ML model training
- Spearheaded CI/CD infrastructure with **Github Actions** for integration checks and release packages deployment

Projects

contentsift (HackED 2024 AltaML Challenge Winner) | *TypeScript, React, Flask, Microsoft Azure*

- Developed the frontend to a web-extension with **React** and **TypeScript** to detect content misinformation on Twitter
- Built a **REST API** using **Flask** to handle user requests and server operations with **Microsoft Azure** AI platform

Picea (AWS Hacks 2024 - Hack The Student Life) | *JavaScript, AWS, axios*

- Created a serverless backend in **JavaScript** using **AWS Lambda** for a mental health conferencing web app
- Utilized **AWS API Gateway** to create a RESTful API to connect clients to **S3** and **DynamoDB** via Lambda functions