Brian Chu
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Education

University of Toronto September 2020 – May 2025
Bachelor of Applied Science in Computer Engineering *GPA: 3.73*

- Dean's Honour List in all completed semesters

Experience

Software Engineer Intern June 2024 – August 2024
Intel *Toronto, ON*

- Worked under the Design Methodology and Automation Team to support 8 codebases in FPGA Programmability and Static Timing Analysis domains
- Developed a Python tool to identify attributes indirectly linked to power-related properties in System Verilog files, significantly reducing time from manually analyzing attribute dependencies.
- Restructured a static timing analysis tool to support the new job submission infrastructure, enabling efficient parallelization of timing analysis flows

Software Engineer – PEY Intern May 2023 – April 2024
Intel *San Jose, CA*

- Parallelized a static timing analysis tool that validates attributes of Liberty timing files, significantly reducing runtime from **days to hours**
- Developed tools for generating intermediate FPGA programmability files from subsystem-level design workbooks, enabling synthesis support for Quartus
- Developed Python tools for generating and crosschecking two IP-XACT files for data integrity
- Supported design intent tools and regression tests to meet new requirements from FPGA designers

Teaching Assistant in MAT188 (Linear Algebra) Sept 2022 – Dec 2022
University of Toronto *Toronto, ON (Remote)*

- Held weekly tutorials and graded assignments and exams for first-year engineering students

Software Engineering Intern May 2022 – August 2022
Maxus International Systems *Vancouver, BC (Remote)*

- Worked on the **full stack** development of a TalentClick's website using C#, ASPX, SQL and Agile methodology
- Developed the backend to process user data and generate TalentClick's psychometric reports using C#, Neo4j, and .NET framework, shortening the report generation time from **hours to minutes**
- Developed a machine learning solution with YOLOV5 model to accurately identify Rebars for a GPR software, achieving a substantial reduction in manual labeling time

Math Academic Mentor May 2021 – August 2021
Engineering Student Outreach Office, University of Toronto *Toronto, ON (Remote)*

- Held weekly tutorials and graded assignments pertaining to linear algebra and calculus

Projects

Capstone Project - TailorSwift Sept 2024 - Present

- Developing an **AI and ML** powered pipeline for generating tailoring patterns from clothing sketches and measurements using NLP, Mask R-CNN, and vision transformer

Geographic Information System January 2022 – April 2022

- Created the backend and frontend of an interactive GIS tool similar to Google Maps with C++
- Developed A*, 3-Opt and multi-start greedy based heuristics for the travelling salesman problem

Processor with extended capabilities April 2022

- Co-designed a processor in Verilog which supports subroutines, stacks, shift and rotate

Technical Skills

Technical Skills: Python, C++, C#, C, TCL, SQL, ARM Assembly, Verilog, HTML, CSS, Javascript, Docker
Software/Hardware courses: Algorithms and Data Structures, Operating Systems, Software Design, Computer Networks, Digital Electronics, Computer Systems Programming, Database, Computer Security
AI/Machine learning courses: Intro to Machine Learning, Intro to AI, Probabilistic Reasoning