Eric Zhu

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Education

- University of Toronto (UofT) — September 2018 - June 2023

- Honours Bachelor of Science, double major in Computer Science and Statistics
- Admitted as UofT Scholar - awarded to top ~4.5% of incoming class
- Check "university" on my website for a list of relevant coursework and description of courses

Skills

Languages — **Python, C++, C, C#, Java, PostgreSQL, R, Stan, CSS/CSS3, JSX, ES6, JavaScript, JQuery**

Tools/Frameworks — **Git, CMake, CUDA, HIP, ROCm, Clang, Pytorch, Tensorflow, Scipy, Keras, Sklearn, Tidyverse, cmdstanr, rstanarm, lme4, React.js, .NET, Bootstrap, Figma, Sketch, Adobe CC**

Principles — **Responsive UI, UX design, OOP, Descriptive/Inferential Statistics, ML theory, Agile Development**

Experience

- Amazon | Toronto, ON • SDE Intern — May 2022 - August 2022

- Software Development Engineer Intern

- Advanced Micro Devices (AMD) | Toronto (Markham), ON • PEY Intern — May 2021 - May 2022

- Language Runtime Team of Machine Leaning SW Engineering Unit
- Novel language features for **HIP-Compute** (analogous to CUDA), and novel infrastructure projects for HIP.
- Utilized C++ to **implement concurrency and image processing algorithms**, and wrote various **GPU kernels** for projects, while working on and utilizing the **ROCm tech stack**, in particular **HIP for compute tasks**.

- Watchtower Robotics | Boston, MA • CS R&D Intern — May 2019 - August 2019

- Created and implemented procedure involving an **unsupervised label generation process** and **custom CNN**, synthesizing proprietary robot data with feature engineered audio data to predict to label pipe features, e.g., joints, with **90%+ test set accuracy. The procedure cut data analysis time by 50% and got AI VC firm attention (Innospark)**.
- Greatly leveraged Scipy, sklearn for statistical analysis, and implemented ML models using **Tensorflow and Keras**.

Selected Projects

- Equator Music (link) (YouTube Music Player) — June 2017 - Oct. 2017

- Created the UI following my concept design, using various custom effects implemented in **.NET's C# API. Properly utilized Google's RESTful API.**
- Developed a responsive product website and an innovative adversiting strategy a $0 budget, which garnered over a thousand users.

- ProjectX (AI Competition) — Sept. 2021 - Jan. 2022

- Competed as part of **UofT's ProjectX team**, a AI competition with a $75k prize pool
- Presented a **novel generative approach to predicting 3D respresentations of DNA interactions from DNA sequences** using **transformers** and a **VAE-like approach,** nearing SOTA performance. **Implemented using Pytorch**.

- uDocumentGen (link) (uDocuGen2) — May 2019 - July 2019

- A **fast, modern,** and **easy to use** documentation generator released on the Unity Assetstore.
- Utilized **C# backend** to intelligently scrape complex project code/documentation into a JSON file.
- Utilized **React.js**, styled components, and various components/libraries to create a responsive front end.

- ASA Datafest UofT 2021 (link) — May 2021

- Analysed 2019 drug use/misuse data in the US, and **won "Best Visualization", one of two prizes.**
- Used **R for logistic models** to analyse drug misuse across drug categories with respect to income "level". Identified impactful drug survey questions for drug misuse across demographics.