William Ma

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I am a software engineer and CS researcher who loves to dive into every technical detail.
Interests: ML, NLP, CV, Graphics, Systems

Education

Cornell University / Ithaca, NY
Jan 2022 – May 2022
- Masters of Engineering, Computer Science
- GPA 4.3 / 4.3

Cornell University / Ithaca, NY
Aug 2018 – Dec 2021
- Bachelors of Science, Computer Science
- GPA 4.2 / 4.3, *Summa Cum Laude*
- Minor in Mathematics

Experience

AR & NLP Research Intern @ Bosch
June 2022 – Present
- Defined user study to evaluate novel interaction in AR
- Trained and deployed language models to AWS cloud
- Tuned 3D airwriting recognition model with Ray Tune

Systems Research under Robbert van Renesse
Sep 2021 – May 2022 [Link]
- Refactored performance-critical model checker in C
- Developed technique for efficient verification of programs used in Operating Systems course at Cornell

NLP Research under Claire Cardie
Jan 2021 – Dec 2021 [Link]
- Developed PyTorch ML training and evaluation pipelines for transformer-based language models
- Read, summarized, and presented papers on state-of-the-art named entity recognition

Open-Source Contributor @ Homebrew
May 2020 – Aug 2020 [Link]
- Implemented web scraper to add license information to ~2500 homebrew-core packages
- Addressed long-standing user confusion by merging 8 pairs of similar commands in brew CLI

Lead Eatery iOS Developer @ Cornell AppDev
Sep 2018 – Dec 2020 [Link]
- Grew user base by 20% during 2019
- 9,600 MAU, 3,600 DAU
- Contributed over 80 peer-reviewed pull requests

Projects

OceanScene / Real-time Rendering
Spring 2022 [Link]
- Built multi-stage deferred rendering pipeline in OpenGL using C++
- Implemented Tessendorf ocean simulation based on Inverse FFT

Sharm / Systems Research Project
Fall 2021 [Link]
- Implemented, profiled, and benchmarked interpreter and source-to-source compiler in Swift
- Wrote and presented academic-style paper summarizing results

TriBlank / NLP Research Project
Spring 2021 [Link]
- Experimented on novel BERT-based model for three-way entity relation extraction in PyTorch
- Wrote and presented academic-style paper summarizing results

Xi / Compiler
Spring 2020
- Implemented dataflow analysis and optimizations
- Developed comprehensive test suite with unit, performance, and integration tests

Cello Mute / iOS App
2016 – 2018 [Link]
- Independently developed iOS app
- 39K downloads

Skills

- Python, PyTorch, Transformers, Swift, iOS App Development, Java, C++

Coursework

- Compilers, Computer Graphics, Computer Vision, Embedded Systems, Formal Verification, NLP, Operating Systems, Quantum Computing, Software Defined Networking
- Differential Equations, Linear Algebra, Number Theory