

William Liu

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Experience

- **NVIDIA** // May 2019 – Aug 2019, Santa Clara, CA
Incoming Deep Learning Architect Intern
Will be on the Deep Learning Accelerator team working on improving architecting better performance for deep learning inference.
- **Zensors** // Oct 2018 – Present, Pittsburgh, PA
GPU Architect
Researching model-agnostic deep learning compiler for low energy GPUs.
- **Uber Advanced Technologies Group** // May 2018 – Aug 2018, Pittsburgh, PA
Software Engineering Intern
Implemented and tested updates to autonomous vehicle operating system. Designed new distributed vehicle metrics architecture and distributed server time synchronization module. Evaluated scalability of software architecture.
- **Computer Architecture Lab at CMU** // Dec 2016 – Present, Pittsburgh, PA
Researcher
Currently researching reducing latency of memory bottlenecks in machine learning and linear algebra-intensive applications. Published findings on DRAM energy consumption reduction by up to 14%.
- **Carnegie Mellon University** // Aug 2017 – Present, Pittsburgh, PA
Teaching Assistant
Teaching Assistant for Principles of Computing (15-110). Leading recitation section and providing office hours to more than 100 students.

Projects + Awards Detailed descriptions and more projects at: williamliu.me

- **PennApps XVII: Modware** // **2nd Place + Hacker's Choice, Jan 2018**
Over 36 hours: created modular hardware prototyping system that abstracts away low level operations for a software developer and gives APIs to web applications. Built magnetic signal conductor and user interface application.
2nd Place out of 300+ teams at University of Pennsylvania.
- **Facebook Global Hackathon: FB Discourse** // **Grand Prize, Nov 2017**
Over 24 hours: built a political debate digitizer and organizer for ease of following. Designed the user interaction flow and the machine learning pipeline. Presented to the VPs of Technology of OculusVR, Instagram, and Facebook.
Best of 14 finalists from 11 different countries.
- **NASA Centennial Challenge: Mars Ascent Vehicle** // **Second Place, Apr 2016**
Over 8 months: built a one mile apogee rocket & Autonomous Ground Support Equipment to secure payload and prep rocket for launch. Wrote 400+ pages of documentation and performed mechanical analysis for the payload mechanism.
Our payload mechanism is the basis for NASA SLS's payload mechanism.

Select Publications

"What Your DRAM Power Models Are Not Telling You: Lessons from a Detailed Experimental Study" *SIGMETRICS 2018*.
S Ghose, A G Yağlıkçı, R Gupta, D Lee, K Kudrolli, **W X. Liu**, H Hassan, K K. Chang, N Chatterjee, A Agrawal, M O'Connor, O Mutlu.

"Interaction Informed Design of User Modeling for Rapport" *Under Review*.
W Liu, M Madaio, J Cassell.

Education

Carnegie Mellon University, May 2020
Bachelor of Science in Cognitive Science
Minors in Computer Science & Mathematics
Alpha Epsilon Pi Fraternity

Skills

Technical:

C, C++, Python, SML, CUDA, OpenCL, Arduino, Raspberry Pi, Linux

Design:

InDesign, Photoshop, Illustrator, SolidWorks, AutoCAD, Inventor, Blender, Laser Cutting, 3D Printing

Misc:

LaTeX, Gantt Charts, Chinese, Spanish

Select Coursework *in progress

*Parallel Computer Architecture // 15-418
*Multimodal Machine Learning // 11-776
*Topics in Deep Learning // 11-785
Computer Systems // 15-213
Theoretical Computer Science // 15-251
Functional Programming // 15-150
Adaptive Decision Making // 85-435
Machine Learning // 10-401
Probability Theory // 36-217

Clubs/Activities

Scotch'n'Soda Theatre

Stage and Production Manager

CMU Tricking Club

Founder & President

Tricking is "an aesthetic blend of gymnastics, martial arts, and breakdancing."

Psychology Student Advisory Board

Board Member

Students for Urban Data Systems

Student Engagement Coordinator

Interests/Misc.

Top 100 Pokémon Player, Filmmaking, League of Legends

Updated: Nov 14th, 2018