

Lila Huang

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Skills

Languages: C/C++, Python, Scala, JavaScript, Perl

Tools: PyTorch, GDB, Linux, Apache Portable Runtime (APR), Django, React, Redux

Education

Bachelor of Computer Science • University of Waterloo

2017 - 2022

- 96.5% faculty GPA, Dean's Honours List
- Coursework: Combinatorial Optimization, Numerical Computation, Algorithms, Operating Systems, Real Analysis, Differential Geometry, Linear Algebra 2 (Adv. level), Statistics (Adv. level)

Experience

Software Engineering Intern • NVIDIA

Jan - Apr 2020

- Developed and tested features for **GPU performance analysis tools** in Perl and C++
- Parallelized and optimized workflow for collecting and processing performance data using the **C++ standard library**, with thread-safe error handling
- Implemented a **concurrent server** for remote data capture using the **APR** networking library

Research Intern • Uber ATG

May - Nov 2019

- Designed a novel algorithm for **deep octree-based point cloud compression**; paper accepted to CVPR 2020
- Adapted Balle's **CNN image compression** model for range images in **PyTorch**
- Wrote **Python-C++ bindings** to perform entropy coding and efficiently construct and serialize octrees

Publications

OctSqueeze: Octree-Structured Entropy Model for LiDAR Compression

CVPR 2020

Lila Huang, Shenlong Wang, Kelvin Wong, Jerry Liu, Raquel Urtasun

Projects

vroom

Nov - Dec 2018

- Designed and created a C++ clone of the command-line text editor vim with **ncurses**
- Used **object-oriented programming** principles, smart memory management, MVC pattern, and design patterns such as Command and Observer to produce modular and reusable code

LACS compiler

Sep - Nov 2018

- Compiled a subset of **Scala** to MIPS assembly language
- Optimized performance by implementing Earley parsing, tail call optimization, and Cheney garbage collection

Awards

Jane Street Electronic Trading Competition Toronto Winner

2019

Rene Descartes National Scholarship

2017

- \$18k scholarship awarded annually to 10 students entering the Faculty of Mathematics

Canadian Mathematical Olympiad qualifier

2016

- Top 50 national placement in the Canadian Open Mathematics Challenge

Activities

Concertmaster & Assistant Concertmaster • Orchestra @ UWaterloo

2017 - 2019

Violinist • Toronto Symphony Youth Orchestra

2010 - 2017