

James Liu

SOFTWARE ENGINEER ·

575 S Rengstorff Ave, Mountain View, CA 94040 Apt 123

☎ 770-317-0421 | ✉ contact@jamesliu.com | 🏠 jamesliu.com | 📱 james7132 | 🌐 jamesliu

Skills

Programming	Rust, C++, C#, Python, C, GLSL, WGSL, Go, Elixir, Java
Frontend	Vue.js, HTML5, SASS
Backend	Flask, Django, Phoenix, Redis, SQL (MySQL, Postgress), BigTable
DevOps	Google Cloud Platform, Docker
Game Dev	Unity, Unity ECS/DOTS, Bevy, WebGPU, Vulkan

Education

Georgia Institute of Technology

M.S. IN COMPUTER SCIENCE

Atlanta, Georgia

Aug. 2020 - Present

Georgia Institute of Technology

B.S. IN COMPUTER SCIENCE

Atlanta, Georgia

Aug. 2012 - Aug. 2016

Experience

Google

SOFTWARE ENGINEER

Mountain View, California

Jan. 2016 - Present

- Developed and utilized machine learning models at scale to improve the data quality of Google Maps.
- Designed and implemented deep learning pipelines to extract real world information from disparate data sources (StreetView, satellite imagery, Android location data) to update the basemap.
- Leveraged modern big data and machine learning technologies (Google Cloud Dataflow, Tensorflow, containers, and many other Google internal technologies like Colossus, Borg, etc.)

Georgia Tech College of Computing

UNDERGRADUATE RESEARCHER

Atlanta, Georgia

Jan. 2014 - Dec. 2015

- Researching program analysis with Professor Bill Harris.
- Tested applications of Craig interpolation and unwinding trees in concurrency and complexity analyses.

Georgia Tech School of Electrical and Computer Engineering

LEAD TEACHING ASSISTANT

Atlanta, Georgia

Jan. 2014 - Dec. 2015

- Taught ECE 2013: Digital Design lab
- Taught FPGA programming, VHDL, computer architecture design, assembly programming, and rapid prototyping techniques.

Open Source

Bevy Game Engine

CONTRIBUTOR

May. 2021 - Present

- Developed a module for creating high performance data-oriented 3D particle systems.
- <https://bevyengine.org/>

Hourai Teahouse

FOUNDER

Jun. 2016 - Present

- Led and managed a hobbyist group of game developers from around the world.
- Created open source video games and video game development assets.
- Organized a multi-disciplinary team of technical and creative individuals (3D artists, musicians, software engineers, etc.)
- Developed Tapioca, a self-hosted game distribution platform, written in Go, modeled after Valve's SteamPipe distribution network.
- Developed Backroll, a GGPO-style rollback netcode library in both C# and Rust.

DanmakU

CREATOR AND MAINTAINER

Aug. 2015 - Present

- Middleware for creating high performance simulation of large quantities of similar objects, optimized for bullet hell games.
- Maximizes performance by optimizing CPU and cache utilization via lock-free multithreading, data-oriented programming, and SIMD parallelism.