Sunho Kim

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EDUCATION

University of California San Diego 2025
B.S., Computer Science *La Jolla, CA*

EXPERIENCE

Google Summer of Code / C++, Assembly / Compiler Engineering / 2022 – 2023
Software Engineer – LLVM Compiler Infrastructure

- Worked under guidance of **compiler engineers from Apple and CERN** to write linker backends for new Just-In-Time compiler infrastructure of LLVM.
- Fixed major bugs in Julia programming language that Julia team got blocked for two years.

Princeton University / C++, LLVM / Compiler Engineering / 2022
Research And Development Contributor – Compiler Research

- Worked with the **compiler-research group at Princeton** to develop LLVM's C++ interpreter.
- Extended parser core of Clang C++ compiler to accept incremental source code.

Devsh Graphics Programming Sp. z O.O. / C++, CUDA, Vulkan / Computer Graphics / 2022 – Current
Software Engineer – Part Time

- Worked on **Vulkan ray-tracing renderer** used by vendors in Europe to render 3D architecture scenes..
- Implemented 3D rendering algorithms in CUDA and GLSL to speed up benchmark scenes 5 times faster.

AWARDS

International Collegiate Programming Contest (ICPC) / Algorithms / 2023

- Placed Top 10 in pacific northwest region (div 1) and advanced to national round of North America.

Samsung Collegiate Programming Contest (SCPC) / Algorithms / 2023

- Received 5th Place Award among 837 contestants.

International Science and Engineer Fair (ISEF) / Software Engineering / 2020

- Selected as Finalist to represent Korea in Software by presenting AI based e-book learning web app.

ACTIVITY

2023 ACM PLDI Conference Tutorial Speaker – Building PL Infrastructure With LLVM Components
2022 LLVM Developer's Meeting Tutorial Speaker – JITLink: Native Windows JITing in LLVM

PROJECT

ShaderToy GLSL Shaders 3D scenes created by only using math and code – no texture and model
KatoML Machine Learning Framework built from scratch

- Written in C++; features tensor math and auto differentiation framework with graph optimizations.

Vita3K Open Source Experimental Playstation Vita Emulator

- Worked on all parts of project as core maintainer, fixing bugs in kernel, CPU, and GPU emulations.

SKILLS

Programming Languages: C++, CUDA, python, typescript, assembly (x86_64, aarch64), LLVM IR, GLSL
Frameworks/Tools: Vulkan, SPIR-V, OpenGL, LLVM, IDA pro, tensorflow, Apache Spark, pandas, reactjs