

Phil Chang

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Software engineer specializing in physics simulation, GPU programming (CUDA, Vulkan), and real-time rendering. Interested in compilers, language design, and game engine development. Fluent in C++ and Python.

EDUCATION

Seoul National University

Bachelor's Degree, Computer Science & Engineering

Seoul, South Korea
Mar 2015 — Feb 2019

- GPA: 3.95 / 4.3 (Summa Cum Laude)
- Transferred from Physics major

Seoul National University

Integrated M.S./Ph.D. Program, Computer Science & Engineering

Seoul, South Korea
Mar 2019 — Apr 2022

- GPA: 4.04 / 4.3
- Completed coursework and research in the [Movement Research Lab](#); transitioned to industry when advisor took leave
- Research focused on computer graphics topics:
 - Physics Simulation
 - Character Animation
 - Machine Learning (Reinforcement Learning, Supervised Learning)
- Final research project: realistic human soft body modeling from CT scan data, combining mesh optimization and physical simulation

WORK EXPERIENCE

Software Engineer

CLO Virtual Fashion

May 2022 — Feb 2025
Seoul, South Korea

- Worked on the cloth simulation engine (both CPU and GPU) for CLO and Marvelous Designer
 - Refactored the simulation engine to have a unified API, that can support multiple backends
 - Overhauled the GPU-based solver with a more optimized implementation
 - Researched topics such as rigid body simulation and collision detection
- Worked on various software engineering tasks, such as:
 - Co-designed architecture for the new animation system in CLO/MD
 - Optimized core application logic (serialization, mesh processing)
 - Overhauled the existing platform-specific build systems to cross-platform CMake (Windows / macOS support)
- Technologies worked with: C++, CUDA, OpenGL, CMake, Emscripten

Senior Research Engineer

Holiday Robotics

Apr 2025 — Present
Seoul, South Korea

- Building the in-house GPU-based robotics simulation engine (holiday-sim) from scratch
 - Initially created with Python (with the Warp framework), in the process of porting to C++ / CUDA
 - Created novel methods for collision detection and contact generation that work efficiently on the GPU
- Developing foundational infrastructure for next-generation robotics platform
- Technologies working with: Python, C++, CUDA, ROS2, gRPC

PROJECTS

PUBLICATIONS

[Generative GaitNet](#) [\[Video\]](#)

SIGGRAPH 2022

Jungnam Park, Sehee Min, **Phil Sik Chang**, Moon Seok Park, and Jehee Lee

[Deep Compliant Control](#) [\[Video\]](#)

SIGGRAPH 2022

Seunghwan Park, **Phil Sik Chang**, and Jehee Lee

[Estimating Cloth Simulation Parameters From Tag Information and Cusick Drape Test](#) Eurographics 2024

Eunjung Ju, Kwang-yun Kim, Sungjin Yoon, Eungjune Shim, Gyoo-Chul Kang, **Phil Sik Chang**, and Myung Geol Choi

AWARDS / SCHOLARSHIPS

- Summa Cum Laude (최우등졸업) at Computer Science and Engineering @ SNU (2015-2019)
- Presidential Science Scholarship (대통령과학장학금) (2015-2019)
- Hansung Nobel Scholarship (한성 노벨 영 · 수재 장학금) (2013-2014)