HEEJO JEONG

Phone number: (+82) 10-3573-6274 / Email: wjdgmlwh1629343@gmail.com

RESEARCH INTERESTS

Computer Graphics, Rendering, Physics-Based Animation, Differentiable Physics, Numerical methods, Optimization, Deformable bodies, Fluids

EDUCATION

Korea University — Seoul, Republic of Korea

M.S. in Computer Science and Engineering — *Sep. 2023 - Aug. 2025*

- Advisor: Prof. JungHyun Han
- GPA: 4.34 / 4.5

Korea University — Seoul, Republic of Korea

B.S. in Artificial Intelligence (Interdisciplinary Program) — *Sep. 2019 - Aug. 2023*

B.S. in Civil, Environmental and Architectural Engineering — *Mar. 2017 - Aug. 2023*

- Including 2 years of military service
- GPA: 4.06 / 4.5

PUBLICATIONS

[1] Momentum-preserving Inversion Alleviation for Elastic Material Simulation

Heejo Jeong, Seung-wook Kim, JaeHyun Lee, Kiwon Um, Min Hyung Kee, and JungHyun Han, Computer Animation and Virtual Worlds (CAVW), Vol. 35, No. 3, May 2024, pp. e2249.

- Poster version presented at Korea Computer Graphics Society (KCGS), July, 2024.

RESEARCH AND PROJECT EXPERIENCE

Learning Neural Hyper-elastic Constraints in XPBD Simulation

Research Project — *Feb. 2025*

- Implemented a differentiable Jacobi-style XPBD solver in PyTorch to enable learning of hyper-elastic constraints from a single motion trajectory.

LG Electronics: Real-time Air Conditioning Airflow Simulation and Visualization on Metaverse

Research Project — *Sep. 2023*

- Implemented a Python-based Poisson solver using preconditioned conjugate gradient (PCG) methods with a sparse matrix for fluid simulation.

Real-time Vision-based Human Pose Matching Framework

Research Intern — *May. 2023*

- Implemented a multiple human tracking module using Yolo7 and Kalman filter.

Predictive-Corrective Incompressible SPH solver

Research Intern — *Jan. 2023*

- Developed in C++ with OpenMP for parallelization and OpenGL for visualization.

EXPERIENCE

Research Intern, Télécom Paris, Institut Polytechnique de Paris, France *Jan 2025 – Feb 2025*
Collaborated with Prof. Kiwon Um on differentiable physics and data-driven simulation methods.

SCHOLARSHIPS

Research Assistant Scholarship, Korea University *Fall 2023 – Spring 2025*
Research Scholarship, Korea University *Fall 2023 – Fall 2024*
BK21 FOUR Outstanding New Student Scholarship *Fall 2023*
National Grant *Spring 2017 – Fall 2019, Fall 2022 – Spring 2023*
KU Alumni Scholarship, Korea University *Spring 2023*
Work Scholarship, Korea University *Fall 2022, Spring 2023*
POSCO Scholarship, POSCO *Fall 2022*
Special Scholarship, Korea University *Spring 2019*
Study Scholarships, Korea University *Fall 2018, Fall 2019*

HONORS

Semester High Honors *Spring 2018, Fall 2018, Fall 2022, Spring 2023*

TECHNICAL SKILLS

Languages: C/C++, Python, Matlab
APIs: OpenGL, OpenMP, CUDA, Taichi Lang , PyTorch
Softwares: LaTex, Blender, MS Office, Photoshop