# Hyojoon Park

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## RESEARCH INTEREST

Physics-based simulation in computer graphics, machine learning, and computer vision.

## EDUCATION

**University of Wisconsin-Madison** — *Sep. 2021 - Current*
*Ph.D. student in Computer Sciences* — *Wisconsin, USA*

**Seoul National University** — *Feb. 2019*
*M.S. in Mechanical Engineering* — *Seoul, South Korea*
· Thesis: Dental Simulator with Increased Z-width of Haptic Rendering (AsiaHaptics 2018)
· Research Area: Haptic, robotics, and physics-based simulation in computer graphics

**Technical University of Munich (TUM)** — *Spring 2014*
*B.S. Exchange Student in Mechanical Engineering* — *Munich, Germany*

**Korea University** — *Feb. 2017*
*B.S. in Mechanical Engineering* — *Seoul, South Korea*

## PUBLICATIONS

- **Variational Auto-encoder for Collagen Fiber Centerline Generation and Extraction in Fibrotic Cancer Tissues**,
  **Hyojoon Park**, —, Medical Image Analysis, 2022 (Submitted)

- **Capturing Detailed Deformations of Moving Human Bodies**,
  He Chen, **Hyojoon Park**, Kutay Macit, and Ladislav Kavan, SIGGRAPH, 2021

- **Adaptive Precision-Enhancing Hand Rendering for Wearable Fingertip Tracking Devices**,
  **Hyojoon Park** and Jung-Min Park, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2020

- **Stretchable Skin-Like Cooling/Heating Device for Reconstruction of Artificial Thermal Sensation in Virtual Reality**,
  Jinwoo Lee, Heayoun Sul, Wonha Lee, Kyung Rok Pyun, Inho Ha, Dongkwan Kim, **Hyojoon Park**, Hyeonjin Eom, Yeosang Yoon, Jinwook Jung, Dongjun Lee, and Seung Hwan Ko, Advanced Functional Materials, 2020

- **Dental Simulator with Increased Z-width of Haptic Rendering**,
  **Hyojoon Park**, Myungsin Kim, and Dongjun Lee, AsiaHaptics, 2018

- **Rigid-body Collaborative Manipulation among Remote Users with Wearable Cutaneous Haptic Interfaces**,
  Myungsin Kim, WonHa Lee, **Hyojoon Park**, Junghan Kwon, Yong-Lae Park, and Dongjun Lee, AsiaHaptics, 2018

- **Design and Performance Evaluation of Wearable Haptic Interfaces**,
  WonHa Lee, Myungsin Kim, **Hyojoon Park**, and Dongjun Lee, International Conference on Control, Automation and Systems, 2018

- **Wearable Cutaneous Haptic Interface with Soft Sensors and IMUs**,
  Yongjun Lee, Myungsin Kim, Yongseok Lee, **Hyojoon Park**, and Dongjun Lee, Korea Robotics Society Annual Conference, 2018

## WORK EXPERIENCES

**University of Utah** — *Sep. 2019 - May 2021*
*Graduate Research Assistant (Advisors: Prof. Ladislav Kavan)* — *Utah, USA*
· Open sourced multi-camera calibration codes: github.com/hjoonpark/MultiCamCalib

**Korea Institute of Science and Technology (KIST)** — *Mar. - Aug. 2019*
*Intern Researcher at CHIC (Center of Human-centered Interaction for Coexistence)* — *Seoul, Korea*
· Developed a VR hand rendering framework for wearable fingertip tracking devices (published to IROS 2020)

**Engineering School in KAIST New Education** — *Sep. 2014 - Feb. 2015*
*(Korea Advanced Institute of Science and Technology)* — *Seoul, Korea*
· Led "Arduino-based Exploration Robot" and "Developing Android Service App" classes

**Military Service** — *Jun. 2011 - Mar. 2013*
*Republic of Korea Army (ROKA) as Military English Interpreter* — *21 months*

**TEACHING ASSISTANT**

**Computer Graphics (CS559),** University of Wisconsin-Madison                          *Spring 2022*

**Computer Graphics (CS559),** University of Wisconsin-Madison                          *Fall 2021*

**Interactive Computer Graphics (CS6610),** University of Utah                          *Spring 2021*

**Computer Graphics (CS4600),** University of Utah                          *Fall 2020*

**System Analysis in Mechanical Engineering,** Seoul National University                          *Spring 2018*

**AWARDS**

**Outstanding MS Thesis Presentation Award**                          *Dec. 2018*
*Department of Mechanical Engineering*                          *Seoul National University*
· Topic: Dental Simulator with Increased Z-width of Haptic Rendering

**Award of Excellence**                          *Fall 2013*
*English-Mediated Course Tutor: Writing*                          *Korea University*

**SCHOLARSHIPS**

**Merit-based Scholarship,** Seoul National University                          *Spring 2018*

**National Scholarship,** Korea University                          *Spring 2016*

**Future Scholarship,** Korea University                          *Spring 2016*