

# Yaesol Kim

COMBINED M.S./PH. D. CANDIDATE IN COMPUTER GRAPHICS LAB AT EWHA WOMANS UNIVERSITY

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## Research Interests

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**Human Robot Interaction, Haptics, Virtual Reality, Human Computer Interaction**

## Education

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### Ewha Womans University

COMBINED M.S./PH.D IN COMPUTER SCIENCE AND ENGINEERING

Seoul, Korea

Mar. 2016 - CURRENT

### Ewha Womans University

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Seoul, Korea

Mar. 2012 - Feb. 2016

## Experience

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### Ewha Womans University

TEACHING ASSISTANT – “NUMERICAL METHODS”

Seoul, Korea

Spring 2017, Spring 2016

- Graded all written assignments and responded to the questions of the students.

### Ewha Womans University

RESEARCH ASSISTANCE (PROF. YOUNG J. KIM)

Seoul, Korea

Jan. 2016 - Dec. 2016

- Implemented a virtual moon experience system as a part of the virtual space exploration project.
- Researched encountered-type haptic display using 7-DoF manipulator.

### Ewha Womans University

TEACHING ASSISTANT – “COMPUTER GRAPHICS”

Seoul, Korea

Fall 2016

- Gave lectures on OpenGL basis.
- Graded all programming assignments and responded to the questions of the students.

### Computer Graphics Lab, Ewha Womans University

UNDERGRADUATE INTERN

Seoul, Korea

Mar. 2015 - Feb. 2016

- Researched virtual moon experiences with video-based crowd animation.

### Embedded Software Lab, Ewha Womans University

UNDERGRADUATE INTERN

Seoul, Korea

Dec. 2014 - Feb. 2015

- Worked on long-tail watchdog timer for high availability on STM32F4-based real-time embedded system.

### SAMSUNG Electronics

INTERN AT VISUAL DISPLAY BUSINESS

Suwon, Korea

Jan. 2014 - Aug. 2014

- Developed testing application for validating Tizen API on SAMSUNG Smart TV.

## Publications

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### International Journal

**Yaesol Kim**, Siyeon Kim, Uran Oh, and Young J. Kim, Synthesizing the Roughness of Textured Surfaces for an Encountered-type Haptic Display using Spatiotemporal Encoding, IEEE Transactions on Haptics, 14(1), Jan-Mar 2021

**Yaesol Kim**, Hyun Jung Kim, Young J. Kim, Encountered-type haptic display for large VR environment using per-plane reachability maps, Computer Animation and Virtual Worlds (CASA 2018 Special Issue), 2018 (cover image)

### Domestic Journal

Hayeon Choi, Jiwan Yun, Seoyeon Park, **Yesol Kim**, Sangsoo Park, Long-Tail Watchdog Timer for High Availability on STM32F4-Based Real-Time Embedded Systems, Journal of Korea Multimedia Society Vol. 18, No. 6, June 2015, pp. 723-733.

### Domestic and Misc. Papers

**Yaesol Kim**, Young J. Kim, Versatile Encountered-type Haptic Display for VR Environment using a 7-DoF Manipulator, International Conference on Intelligent Robots and Systems, 2016 (Extended Abstract)

**Yaesol Kim**, Gahye Park, Yun-hyeong Kim, Young J. Kim, Virtual Moon Experiences with Video-based Crowd Animation, HCI Korea, 2016

Yun-hyeong Kim, **Yaesol Kim**, Gahye Park, Young J. Kim, Video-based Crowd Animation on Moon Surface, Korea Computer Graphics Society, 2015 (Extended Abstract)

### Patents

Young Jun Kim, **Yae Sol Kim**, Uran Oh, METHOD AND SYSTEM FOR PROVIDING A ROUGHNESS HAPTIC OF A VIRTUAL OBJECT USING SPATIOTEMPORAL ENCODING, PCT/KR2021/003269, 2021 (PCT application) & 10-2020-0091008, 2021 (Korea Patent application)

Young Jun Kim, **Yae Sol Kim**, VIRTUAL SPACE EXPERIENCING APPARATUS AND METHOD, 10-1751176, 2017

## Technical Skills

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**Programming Languages:** C, C++, C#, Python, Java, Matlab, R, HTML

**Robotic Programming:** ROS, OMPL, CoppeliaSim, Gazebo, Rviz, KUKA IIWA

**Motion Capture:** Kinect v1, Kinect v2, Leap Motion, OpenCV

**Virtual Reality:** Unity3D, Oculus SDK

**Others:** Experience with OpenGL, RaspberryPi, Arduino, Android

## Honors & Awards

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| 2015 | <b>Bronze Prize and Scholarship for Portfolio Contest</b> , Accreditation Board for Engineering Education of Korea | Seoul, Korea |
| 2015 | <b>Gold Prize for Portfolio Contest</b> , Dep of CSE, Ewha Womans University                                       | Seoul, Korea |
| 2015 | <b>Bronze Prize for Capstone Design Contest</b> , Dep of CSE, Ewha Womans University                               | Seoul, Korea |

# Extracurricular Activity

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## Poster Presentation

- KRoC 2020: **Yaesol Kim**, Young J. Kim, Synthesizing the Roughness of Textured Surface for an Encountered-type Haptic Display
- KHC 2019: **Yaesol Kim**, Young J. Kim, Encountered-type Haptic Texture Display using Collaborative Robot
- KRoC 2018: **Yaesol Kim**, Young J. Kim, Encountered-type Haptic Display for VR Environment using Per-plane Reachability Maps
- KHC 2016: **Yaesol Kim**, Young J. Kim, Versatile Encountered-type Haptic Display for VR Environment using a 7-DoF Manipulator
- Korea Software Conference 2015: Jaen Ku, **Yaesol Kim**, Yoonsun Lim, Sooyeol Yang, Real-time Compensation Algorithm for Localization Using iBeacon

## Deep Learning Tutorials, National Association of Cognitive Science Industries

Seoul, Korea

STUDENT

Apr. 2016

- Solve the given problems using deep learning tools such as Caffe, Theano, and TensorFlow.

## Arduino Tutorial, Rnu Corporation

Seoul, Korea

STUDENT

Jan. 2016

- Complete the curriculum on Arduino & IoT sensing and wireless control.

## Seoul Accord Tutor Program

Seoul, Korea

TUTOR

Jun. 2015 - Aug. 2015

- Acted as a tutor on embedded system and experiments.

## YDP Education for scientifically gifted student

Seoul, Korea

TEACHING ASSISTANT

Jun. 2015

- Gave a lecture on virtual reality and tutorial class about Unity 3D.

## E-COPS Security club

Seoul, Korea

MEMBER

Sep. 2013 - Jun. 2015

- Gained knowledge about information security and cryptography.