

# Soohwan Kim | Curriculum Vitae

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## Education

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<b>Georgia Institute of Technology</b> <i>Doctor of Science in Mechanical Engineering</i> Focus: Biological Fluid Mechanics, Advisor: Prof. David Hu	<b>United States</b> 2021–Present
<b>Seoul National University</b> <i>Bachelor of Science in Mechanical Engineering (Summa Cum Laude)</i> Advisor: Prof. Ho-Young Kim	<b>Republic of Korea</b> 2015–2021
<b>Korea Science Academy of KAIST</b> <i>Science Specialized High School</i>	<b>Republic of Korea</b> 2012–2015

## Research Experiences

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<b>Graduate Research Assistant</b> <i>SenSARS: Wetted Wall Cyclone for Bioaerosol Collection</i> Advisor: Prof. David Hu & Dr. Mike Farrel	<b>Georgia Institute of Technology</b> 2021–Present
<b>Undergraduate Thesis</b> <i>Viscoelastic Modeling of Human Skin for Indentation Test</i> Advisor: Prof. Ho-Young Kim	<b>Seoul National University</b> 2020–2021
<b>Xcorps Research Program</b> <i>Human-Robot Hand Mapping Using a Glove-type Sensor</i> Advisor: Prof. Jae-Heung Park	<b>Seoul National University</b> 2019–2020

## Working Experiences

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<b>Summer Internship</b> <i>Research on Turbo Blowers for Water Treatment Plant</i>	<b>Samsung Engineering</b> 2020
<b>Winter Internship</b> <i>Design of Wall-mounted Air Purifier Combined with Mask Sterilizer</i>	<b>Samsung Electronics</b> 2021

## Teaching Experiences

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<b>Teaching Assistant</b> <i>T.A. of Dynamics (Prof. Jae-Heung Park)</i> Undergraduate T.A. nominated by the department	<b>Seoul National University</b> 2020 Fall
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## Leadership Experiences

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<b>Webmaster</b> <i>Managing the official website</i>	<b>GT Korean Student Association</b> 2021–Present
<b>Translator &amp; Squad Leader</b> <i>Translated classified military intelligence, developed an RPA to translate Korean into English, led a squad comprised of 19 underclass soldiers</i>	<b>Republic of Korea Army</b> 2018–2019

**Junior Mentor**  
*Mentoring university students in the KorMent Program*

**Korean Student Aid Foundation**  
2017

**Mentor & Mentee**  
*Mentoring fellow students in the Campus Mentoring Program*

**Seoul National University**  
2015

## Conference Proceedings

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**Kimchi Fermentation in Korean Permeable Earthenware Onggi** Phoenix, Arizona  
*APS Physics Division of Fluid Dynamics (DFD)* 2021 November

**Kimchi Fermentation in Korean Permeable Earthenware Onggi** Atlanta, Georgia  
*Southeastern Regional Society of Integrative and Comparative Biology (rSICB)* 2021 November

**Optimization of Wetted Wall Cyclone for Pathogen Collection** South Hadley, Massachusetts  
*Fluids in Disease Transmission and Contamination* 2022 August

**Optimization of Wetted Wall Cyclone for Pathogen Collection** Raleigh, North Carolina  
*American Association for Aerosol Research (AAAR)* 2022 October

## Journal Publications

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**Onggi's permeability to carbon dioxide accelerates kimchi fermentation**  
*Royal Society Interface*, 2023

**Canine-inspired unidirectional flows for improving memory effects in machine olfaction**  
*Integrative and Comparative Biology*, 2023

## Grants & Fellowships

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**Presidential Science Scholarship** 2015–2020  
*Korea Student Aid Foundation*

**Junior Fellowship** 2016  
*Institute of Japanese Studies, Seoul National University*

**KSA Scholarship** 2012–2014  
*Korea Science Academy of KAIST*

**Academic Scholarship** 2012  
*Busan Bank*

## Awards & Honors

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**Special Prize in Field Problem Solving** 2020  
*SNU X-corps Research Group*

**Certificate of Appreciation from Director-level US Delegations** 2019  
*National Geospatial-Intelligence Agency*

**Outstanding Materials and Manufacturing Processes Award** 2019  
*Seoul National University*

**Excellence Award in Mechanical Product Design Contest** 2019  
*Seoul National University*

## Relevant Skills

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**Programming in C++, Python, MATLAB**

**Extensive knowledge of ROS, PyTorch, Arduino, 3D-Printing, Solidworks, Siemens NX**

**Extensive knowledge of COMSOL Multiphysics, OpenFoam, Altair HyperWorks**

**Fluent level in English and Korean**

**Basic level in German and Japanese**