YOUNGSANG SUH

Department of Mechanical Engineering, Seoul National University
sys0427@snu.ac.kr ⋄ (+82) 10-5483-5608

EDUCATION

Seoul National University (SNU) March 2015 - Present
Department of Mechanical Engineering (ME)

· Undergraduate Student — Major GPA: 4.20/4.30, Overall GPA: 4.18/4.30

· Military Service (leave of absence) — January 2017 - October 2018

Busan Science High School March 2013 - February 2015

RESEARCH EXPERIENCE

Applied Nano and Thermal Science Laboratory April 2020 - Present
Advisor: Dr. Seung Hwan Ko, Professor of Mechanical Engineering, SNU

· Manufacture conformable sensitive Ag-Nanoparticle stretchable strain sensor using crack structure
  – Coated silicon wafer with CPI and Ag-NP
  – Sintered Ag-NP selectively using galavometer and laser device, controlling annealing status with UV laser power for stable crack generation

· Review paper about stretchable electronics for human-machine interface
  – Organized recent trends of stretchable sensors for human-machine interface
  – Summarized stretchable actuators that are used as assistive and haptic devices

Interactive & Networked Robotics Laboratory December 2019 - Present
Advisor: Dr. Dongjun Lee, Professor of Mechanical Engineering, SNU

· Novel algorithm for quadrotor motion planning in 3D cluttered rectangular environments
  – Presented framework to generate every possible safe flight corridor (SFC) prior to the planning process
  – Defined a new concept, maximally occupying convex space (MOCS) to be prebuilt as SFC to fill cluttered rectangular environments
  – Established algorithm completeness by proving equivalence between the existence of feasible path and the existence of MOCS path
  – Obtained computation efficiency compared to previous SFC-based algorithm

PUBLICATIONS

KK Kim*; **Y. Suh***; SH Ko†. 2020. Smart stretchable electronics for advanced human-machine interface. Submitted to the *Advanced Intelligent Systems*.

Y. Suh; J. Kang; D. Lee†. 2020. A fast and safe motion planning algorithm in cluttered environment using maximally occupying convex space. Accepted to the *International Conference on Control, Automation and Systems (ICCAS)*.

* indicates equal contribution and † indicates corresponding author

PRESENTATIONS

Y. Suh; J. Kim; J. Shin; H. Kim; S. Kim; "Finding a safe route using street lamp and crime rate open data", Open Data Idea Hackathon, Ministry of the Interior and Safety, Seoul, Korea, June, 2016.

HONORS AND AWARDS

Kwanjeong Domestic Undergraduate Scholarship ($5,500 per semester), Kwanjeong Educational Foundation — Spring 2019 - Present
Grant for Undergraduate Research Program ($3,000), Research Affairs of SNU — May 2020
Work-Study Scholarship 1 ($750), SNU — Summer 2019
Excellence Award in Engineering Design, SNU ME Mechanical Product Design Course — June 2019
Grand Prize ($1,000), Open Data Idea Hackathon, Ministry of the Interior and Safety — June 2016
Eminence Scholarship (full tuition), SNU — Spring, Fall 2016
Merit-Based Scholarship (50% tuition), SNU — Fall 2015
Admission Merit-Based Scholarship (10% tuition), SNU — Spring 2015

TECHNICAL SKILLS

Computer Languages	C++, C, Python, MATLAB
Laboratory Skills	Soldering, 3D Printing, Ag-NP Sintering, Milling, CNC, Lathe
Software & Tools	ROS, Solidworks, Onshape, Powermill, SAMLight, LaTeX

LANGUAGE PROFICIENCY

English (Fluent), **Korean** (Native)

EXTRA-CURRICULAR ACTIVITIES

Undergraduate Research Program, Research Affairs of SNU — May 2020 - December 2020
Undergraduate Course Assistant, SNU ME Mechanical System Modeling and Control — Spring 2020