

Hee Yun Choi Kim

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Education

Carnegie Mellon University | Pittsburgh, PA

May 2022

B.S. in Materials Science and Engineering

GPA: 3.59/4.00

IDEATe (Integrative Design, Arts, and Technology) Minor in Intelligent Environments

Experience & Projects

Team Leader for Capstone Course Senior Group Project | Pittsburgh, PA

Aug 2021 - Mar 2022

- Delivered promising preliminary data on recyclability of plastic-based composite indicating likelihood of more than four times reuse of material and thus decreasing plastics production and waste
- Performed mechanical tests (tensile, three-point bend, Rockwell hardness) of recycled 30 wt.% glass fiber-reinforced polycarbonate composites to supplement Covestro's research in plastics recyclability for drug delivery auto-injectors
- Managed team by delegating tasks and assigning deadlines in accordance with individual strengths and weaknesses to increase work efficiency and group harmony

Research Intern at Morphing Matter Lab | Pittsburgh, PA

Jan - May 2022

- Led chemical detection development for shape-changing plant prosthetic device in its prototyping phase, requiring communication among plants, humans, and other species to assist healthy plant growth
- Ensured detection efficacy and application of existing commercial rapid colorimetric tests to prosthetic device
- Evaluated practical use of AuNPs in prosthetic device by synthesizing AuNPs made specifically for colorimetric tests detecting a pesticide harmful to bees (neonicotinoid) in guttation water samples

Research Intern at University of Tokyo, Kimura Lab | Kashiwa, Japan

Jun - Jul 2019

- Conducted experiments for personal research project to investigate the ferroelectricity of CuO Grew a CuO single crystal using Floating Zone furnace to induce polarization along the b-axis of the sample's crystallographic structure, which was found through Laue XRD
- Measured the dielectric constant and pyroelectric current of the polished sample with Physical Properties Measurement System to verify consistency with existing data on CuO ferroelectricity
- Presented project results to research intern peers and University of Tokyo faculty

Leadership & Activities

Lunar Gala | *Head of Entertainment (2021-2022)*

Aug 2019 - May 2022

- Selected for Head of Entertainment position by Heads of previous years after contributing as Lunar Gala dancer for 1 year and demonstrating past choreographing and leadership experience of 3+ years
- Choreographed and taught 12 dancers original dance routine in 2 months leading up to annual Lunar Gala Fashion Show 2022 performed for 600+ guests

Soulstylz Dance Crew | *Public Relations & Social Chair (2020-2021)*

Jan 2020 - May 2022

- Improved audition turnout and grew crew size from 10 to 22 members by increasing online presence and outreach through revamping social media branding and consistently designing and posting original content on weekly basis
- Choreographed and taught original routine to 20+ crew members for Soulstylz Fall 2021 Showcase, university-wide Dancers' Symposium 2021 show, and guest performance at Lunar Gala Fashion Show 2022

Skills & Abilities

- Captured and analyzed SEM images of wood samples to observe microstructure effect on mechanical properties
- Designed on SolidWorks and Rhino and laser-cut components of a spinal cord-inspired tensegrity structure to explore a challenging and interesting way to build a structure that can support 5 lbs. and spans 2 ft.
- Programmed electronic maze on Excel VBA that unveiled pixel art underneath step by step as user traversed through
- Designed on Rhino and assembled 12 x 8 ft. inflatable dome structure using sewing machine
- Native Spanish speaker and advance in Korean
- Familiar with Matlab, Python, and C++