

BONSUCK KOO

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LinkedIn:



EDUCATION

The University of Texas at Austin

GPA: 3.92/4.00

Integrated Masters and Bachelor of Science in Mechanical Engineering

Dec 2024

Relevant Coursework: Aerial Robotics, Spacecraft Dynamics, Automated Control Systems Lab, Stochastic estimation and control

WORK EXPERIENCE

Sandia National Laboratories, Navigation and Guidance Control Graduate Intern

05/2024-08/2024

- Modeling, simulation, and analysis of dynamical systems in MATLAB and Simulink

Aerial Robotics, Drone Project

01/2024 – 05/2024

- Develop C++ algorithm for the drone to find a path through obstacles and finish a race in 2nd place
- Model UAV dynamics, sensor measurements, and develop attitude and position controller in MATLAB

Blue Origin, Guidance Navigation and Control Intern

09/2023-12/2023

- Implemented MATLAB and Simulink models for rocket launch simulation, improving its overall fidelity

Automated Control Systems Lab Course, Mini-Segway Project, Team Member

01/2023 – 05/2023

- Analyzed dynamics of Mini-Segway toy on Python and implemented a LQR controller, which successfully controlled the segway to stay upright for 5 seconds

Trane Technologies, Systems Engineering Team, Co-op

05/2021 – 01/2022

- Analyzed products against new federal standard using Alteryx and Tableau, contributing to potential savings of \$ 400,000
- Validated performance of mechanical fittings that can reduce residential installation time by 25%, and collaborated with technicians to define verification requirements
- Developed a Tableau tool that analyzes product margins, sales, and performance to understand customer demands and simplify company's product portfolio
- Collaborated with a component supplier throughout the internship to obtain test specimen and specification

Samsung Semiconductors, CMP, Engineering Intern

05/2022 – 08/2022

- Debugged technical documents that tracked production failures using VBA, saving 1 hour for the technicians every shift
- Created a website version of the technical documents using JavaScript, CSS, and HTML

LEADERSHIP

Senior Capstone Design Project, Southwest Research Institute, Team Leader

08/2022 – 12/2022

- Optimized the hammer design to produce zero stress on the hammer pivot upon impact
- Designed a CAD model of Medium Weight Shock Machine that comply with MIL-DTL-901E
- Organized weekly meetings with sponsors, teaching staff and advisors

Republic of Korea Army, Radiotelephone Operator, Counselor

12/2018 – 08/2020

- Received top marks for promotion tests every quarter by directing 7 squad members in tactical courses using leadership and promoting teamwork
- Received a merit award for effectively relaying orders and situations directly to and from officers in the field
- Counseled fellow soldiers adjust within the military and held quarterly individual counsel sessions with them

SKILLS

Simulink, MATLAB, Git, Python, C++