

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-Present

- Improved low-side MATLAB and Simulink models of flight vehicles to reduce SWIL development time
- Automated 6-DOF simulations through PowerShell and Task Scheduler to save 30 mins for SWIL engineers

Aerial Robotics, Drone Project

01/2024 – 05/2024

- Developed C++ algorithm for a drone to find a path through obstacles, finishing a race in 2nd place
- Modeled UAV dynamics, sensor measurements, and developed attitude and position controller in MATLAB
- Led the team to use GIT to easily divide and share tasks, enhancing teamwork and time management

Blue Origin, Guidance Navigation and Control Intern

09/2023-12/2023

- Implemented a new feature to a rocket simulation in MATLAB and Simulink, improving its overall fidelity
- Collaborated with other GNC engineers to enhance navigation simulation in Simulink and MATLAB by using GIT and documenting my work on Confluence

Samsung Semiconductors, CMP, Engineering Intern

05/2022 – 08/2022

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

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

LEADERSHIP

Gudaloop, Suspension Lead

01/2023 – 08/2023

- Managed a suspension design project to deliver a design on time with adequate documentation on stress and cost analysis
- Conducted FEA of suspension mount and shaft to withstand dynamic and static force during vehicle operation

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

SKILLS

Simulink, MATLAB, Git, Python, C++, PowerShell