

# BONSUCK KOO

[bonsuckkoo@gmail.com](mailto:bonsuckkoo@gmail.com) • (347) 798-5104 • [LinkedIn](#)

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

- Develop low-side MATLAB and Simulink models of flight vehicles to reduce SWIL development time
- Automate simulation runs through powershell script and windows task schedule to save 30 mins for engineers

### Aerial Robotics, Drone Project

01/2024 – 05/2024

- Developed C++ algorithm for the drone to find a path through obstacles and finish a race in 2<sup>nd</sup> place
- Modeled 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 using Git for rocket simulation, improving its overall fidelity

### Gudaloop, Suspension Lead

01/2023 – 08/2023

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

### 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

### 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

## SKILLS

Simulink, MATLAB, Git, Python, C++