Joseph Krueger

EDUCATION

Technische Universiteit Delft, Delft, NL 2021-2023
Studied Aerospace Engineering, Controls and Simulation | Areas: Distributed simulation, control systems
Villanova University, Villanova, PA May 2021
Bachelor of Science in Mechanical Engineering | Minors: Aerospace Engineering and Mathematics
3.6 GPA | 3.67 Tech GPA | Dean's List

ENGINEERING EXPERIENCE

Intern, Wright Brothers Flight Technology, Hoofdorp NL Summer 2023
- Designed, built, and tested Airbus A320N flight navigation computer simulation
- Translated highly technical documents into functional systems

NASA RASC-AL Team Finalist 2021
- Led sub-team to design prototype Mars Assent Vehicle chassis and structural components
- Selected as one of 16 national finalist teams, and presented findings at yearly RASC-AL Forum

Capstone Project, Villanova Mechanical Engineering and Lockheed Martin Space 2020-2021
- Researched and modeled rocket fuselage part for metallic additive manufacturing
- Developed printing and assessment procedures for testing of finished component in spring 2021

Teaching Assistant, Villanova Mechanical Engineering Department, Villanova PA 2020-2021
- Graded freshman level Matlab coursework
- Held regular office hours to instruct and correct students outside of class

Junior Project Manager, Villanova Facilities, Villanova, PA 2018-2020
- Performed complete survey of 128 classrooms on campus
- Conducted inspections of new campus housing for ADA compliancy

RESEARCH/AWARDS

UPenn REACT Researcher, University of Pennsylvania Summer 2021
- Selected for research on active coating technologies with respect to water resource management
- Simulated polymerization of nanocomposites using C, python, and compute clusters
- Designed material for specific properties and presented research in global context

Researcher, Villanova Center for Research and Fellowships, Villanova PA 2019-2021
- Proposed and conducted faculty advised research on the effects of fragmentation on brittle materials
- Wrote and utilized computer simulations in Matlab to collect and compile data
- Summarized data set and presented findings at the Villanova Summer Research Symposium

Research Assistant, Villanova College of Mechanical Engineering 2020-2021
- Fabricated robot chassis, actuator, and wheel components using traditional and additive manufacturing techniques
- Networked LIDAR, Raspberry Pi, and Arduino into an autonomous system

LEADERSHIP/ACTIVITIES

President, Villanova Chamber Strings 2019-2021
- Organized, planned, and performed in concerts and events on Villanova's Campus

Co-Chair, Villanova SWE Professional Development Committee 2020-2021
- Worked with a small team to direct career building events such as an annual networking dinner

Executive Board Member, Villanova Pops Orchestra 2017-2019
- Supported director in the operations of orchestra and its performances

SKILLS

Experience with Matlab, Python, C++/C, SLURM, Autodesk Suite, Solidworks, Creo, ANSYS, Solid Edge, and CSS
Proficiency with Microsoft Office and general online databases