Joseph Krueger
04/09/1998

EDUCATION

Delft University of Technology, Delft, Netherlands — May 2023
Master of Science in Aerospace Engineering | Track: Control and Operations

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

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 preliminary 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, SLURM, Autodesk Inventor, Solidworks, Creo, HTML, Solid Edge, and CSS
Proficiency with Microsoft Office and general online databases