Samantha Ramsey

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EDUCATION

Primary Major: Aerospace Engineering, B.S.
Secondary Major: English Literature, B.A.
University of Tennessee, Knoxville
- Expected Graduation Date: May 2022
- Dean's List Summa Cum Laude: Fall 2018 – Present
- GPA: 3.92/4.0

ACADEMIC AWARDS

American Institute of Aeronautics and Astronautics
- 2019 Diversity Scholar

Tickle College of Engineering
- 2019 Engineering Leadership Scholarship Recipient

2019 Vanderbilt Hackathon
- Winner: "A Code of Art"

TECHNICAL SKILLS

- Python Programming
- MATLAB Programming
- LaTeX
- Copernicus Trajectory Software
- General Mission Analysis Tool (GMAT)
- Microsoft Office Suite
- Technical Writing
- Mathematical Analysis
- Windows/Mac/Linux OS

RELEVANT WORK EXPERIENCE

Aerospace Engineering Department — **University of Tennessee, Knoxville** — **August 2019 – Present**
Astrodynamics Research Assistant
- Develop and apply analytical and numerical techniques to solve astrodynamics problems in conjunction with NASA's Mission Design and Analysis team at Marshall Space Flight Center.
- Automate parametric studies on mission architectures through the use of high-level scripting languages.
- Implement numerical methods to analyze flight mechanics problems by utilizing numerical integration, root-solving methods, and coordinate transformations.

Bevilacqua Research Corporation — **Marshall Space Flight Center, Huntsville, AL** — **May 2019 – August 2019**
Trajectories Intern
- Analyzed in-space trajectories for NASA's Mission Design and Analysis team to ensure key constraints were met.
- Studied celestial body movements to design analytic models which predict initial conditions for Copernicus, one of NASA's in-space trajectory simulation tools, to determine potential launch windows.
- Created automated processes with Python to run trajectory simulations in Copernicus and improve optimization speeds.
- Participated in astrodynamics classes and completed weekly assignments on topics including optimal control theory, orbital perturbations, algorithm writing, and the three-body problem.

LEADERSHIP EXPERIENCE

Tickle College of Engineering — **University of Tennessee, Knoxville** — **August 2019 – Present**
Student Ambassador
- Serve as the face of the university to recruit prospective students as well as represent the college to Alumni.
- Stimulate community interest in engineering through public outreach events.

Engineering Mentor
- Provide guidance and mentorship to engineering freshman to help ease the transition to university and provide them with a more holistic perspective on the engineering discipline of their choice.

PROFESSIONAL INVOLVEMENT

Women in STEM Advancing Research, Readiness, and Retention — **October 2019 - Present**
- Collaborate with a team of volunteers to organize weekly activities for elementary school students to expose them to various engineering disciplines and encourage them to pursue educations in STEM.
- Develop and lead workshops covering topics including celestial mechanics and basic programming techniques.

American Institute of Aeronautics and Astronautics — **August 2018 – Present**
- Participated in Congressional Visits Day to advocate funding for aerospace projects, research, and innovation.
- Attended the 2019 International Astronautical Congress as an AIAA Diversity Scholar.

Society of Women Engineers — **August 2018 – Present**
- Attended WE18 National Conference in Minneapolis, MN.