# EMILY WILLIAMS

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## EDUCATION

**University of Illinois at Urbana-Champaign** **May 2021**
Bachelor of Science in Aerospace Engineering, Minor in Atmospheric Sciences GPA: 3.95 / 4.00

## WORK EXPERIENCE

**The Boeing Company** **El Segundo, CA**
Space Electronics Product Design Automation Intern May 2020 – Aug 2020

- Optimized component object model (COM) automation process by interfacing between integrated printed circuit board (iPCB) layout application and ANSYS for thermal analysis using Visual Basic Script (VBS)
- Developed new baseline workflow model for streamlining database curation of thermal parameters for product design and testing

**GE Aviation** **Cincinnati, OH**
Product Operations Intern May 2018 – Aug 2018

- Reallocated 300+ GEnx 1B booster fan blades in spares inventory to usable parts kitted for application on the assembly line, expediting the development of 20 affected engines
- Implemented program for tracking forecasted commits across multiple product lines to proactively address maintenance repair and overhaul (MRO) issues with executive team

**University of Illinois Grainger College of Engineering** **Champaign, IL**
Head Engineering Learning Assistant Aug 2017 – Present

- Instructing and facilitating one ENG 100 section of 20+ first-year aerospace undergraduate students while overseeing all Engineering Learning Assistants and ENG 100 course activities for all 11 engineering departments
- Improving and teaching ENG 177: GFX Leadership Scholars to introduce 25+ first-year students to leadership opportunities on campus

## RESEARCH EXPERIENCE

**Numerics and Unsteady Flows (NUF) Group** **Champaign, IL**
Advisor: Andres Goza, PhD May 2020 – Present

- Developing robust and efficient computational tools for simulating and analyzing fluid-structure interaction systems
- Optimizing current time stepping algorithm into a higher order method using immersed boundary smooth extension method

**Center for Hypersonics & Entry Systems Studies** **Champaign, IL**
Advisor: Marco Panesi, PhD Jan 2020 – Present

- Using TensorFlow neural networks to fit 3D potential energy surfaces to acquire the reaction rates of the hydrogen cyanide (HCN) system
- Fitting the kinetics data of hypersonic re-entry flight using sparse regression techniques to obtain an expression for the state-to-state dissociation rates in terms of the position of the centrifugal barrier

**Laboratory for Advanced Space Systems at Illinois (LASSI)** **Champaign, IL**
Advisor: Michael Lembeck, PhD Aug 2017 – Fall 2020

- Oversaw and monitored all satellite mission progress across entire laboratory program through collaboration with mission coordinators and subteam leads
- Implemented robust scheduling system adaptable for tracking mission deliverables and responsibilities for five active satellite programs

## CAMPUS INVOLVEMENT

**Women in Aerospace**
President (2019 – 2021), Secretary (2018 – 2019), External Representative (2017 – 2018)

- Planned and executed week-long professional development trips and conferences for executive board members and membership of 40+
- Expanded executive board from 5 to 10+, creating new positions to focus on fundraising, outreach, and professional endeavors

**Satellite Development Organization**
President (2019 – 2020)

- Revived organization after 3-year hiatus by developing new website and other media to rebrand and market towards recruiting new talent
- Introduced various interest groups with mentors to help facilitate learning and development of technical skills for membership of 300+

## SKILLS

Programming: MATLAB, Python, HTML/CSS, Arduino, SQL, Visual Basic Script, Linux
Industry: Siemens NX, PTC Creo, LaTeX, Mentor Graphics, Microsoft Office, Microsoft Project