

# DAVID A. GABLE

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## EDUCATION

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### University of Illinois at Urbana-Champaign

Master of Science, Aerospace Engineering (Anticipated August 2023)

GPA: 3.66/4.00

Bachelor of Science, Aerospace Engineering (May 2021)

GPA: 3.69/4.00

## RESEARCH EXPERIENCE

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### Research Assistant

*Vertically Landed Rocket, Dr. Michael Lembeck*

*May 2021-Present*

*LASSI UIUC*

- Designed a 1.2 kg model rocket to land vertically from a height of 20 meters
- Use CAD software to develop prototypes and perform kinematic analysis to improve design before testing
- Rocket uses landing gear, avionics, engine gimbal, and aerodynamics package to land autonomously
- 4 trial kits were manufactured and sent to universities to receive feedback on build process

### Undergraduate Research Assistant

*Expanding Droplet Cloud Experiments, Dr. Nick Glumac*

*May 2020-May 2021*

*MechSE Illinois*

- Built and tested experimental test apparatus to measure fluid jet droplet sizes
- Used framing camera and laser sheet to illuminate droplet cross sections
- Developed new methods to make detonable materials for UAV structural elements
- Tested new energetic materials and gain experience energetic behaviors

### Course Assistant

*Avionics Bay Development, Dr. Brian Woodard*

*July 2020-May 2021*

*AE UIUC*

- Developed a Raspberry Pi system to collect data and HD video during flight
- Used results from test launches to improve system before manufacturing many more units
- Applied strengths in design to make robust bays which can be quickly loaded and unloaded from rocket between flights

## TECHNICAL ACTIVITIES

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### NASA Micro-g NExT 20'

*Project Manager*

*August 2019-October 2020*

*Illinois Space Society*

- Selected as team lead for 2019-20 to design a loose surface sample collector for the Artemis Program
- Exercised strengths in task delegation and technical writing
- Guided members through the whole engineering design, manufacturing, and testing process
- Successfully conducted remote tool testing at NBL in October 2020

### NASA Micro-g NExT 19'

*Team Member*

*September 2018-October 2019*

*Illinois Space Society*

- Oversaw the design and manufacturing of a device to detect and mitigate sharp edges on ISS EVA handrails caused by micrometeoroid impacts
- Tool was tested by divers at the Neutral Buoyancy Laboratory at Johnson Space Center in June 2019 before presenting at the International Astronautical Congress
- Awarded Hons Von Muldau Team Award for best technical paper in collegiate team competition category at the International Astronautical Congress 2019 against 4,300 submitted abstracts
- Awarded Technical Project of the Year by SEDS for outstanding creation and completion of a technical project

## AWARDS AND PROFICIENCIES

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**Awards** Michael W. Miller Innovation Award (UIUC, 2020), Hons von Muldau Team Award (IAF, 2019), Technical Project of the Year (SEDS 2019), Dean's List (FA2018 and SP2018)

**Skills** NX, Creo, Solidworks, MATLAB, Python, MS Office, Abaqus