Ryan Thibeault

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Education:

Rensselaer Polytechnic Institute (RPI), Troy, NY — Expected: May 2022
Major: Master of Engineering in Aeronautical Engineering

Rensselaer Polytechnic Institute (RPI), Troy, NY — May 2021
Major: Bachelor of Science in Aerospace Engineering — GPA: 3.97
Minor: Astronomy

Related Experiences:

- **Undergraduate Research**
  Center for Flow Physics and Control (CeFPaC), RPI — ***January 2020 – May 2021***
  Advisor: Dr. Michael Amitay - Mechanical, Aerospace, & Nuclear Engineering

  Worked on modular designs for swept wings to be tested in a wind tunnel, helped with CAD designs for the airfoil setup, as well as various tail deflections to be tested, created (CAD, quoting, and fabrication) mounting structures to fix models inside a wind tunnel test section including stings and supports that allow change in pitch, roll, and yaw in the model, aided in the testing setup (mount and SLA parts) for a novel wind turbine concept by use of CAD

- **Space Vehicle Design – Senior Design Project** — **Fall 2020**
  Rensselaer Polytechnic Institute

  Managed the attitude determination and control systems and determined the orbital mechanics including the interplanetary transfer between Earth and Mars for the team's Mars spacecraft mission proposal for a mock NASA Announcement of Opportunity, also lead the safety and mission assurance of the proposal

- **Full Time Undergraduate Research**
  Sensing, Estimation, and Automation Laboratory (SEAL), RPI — ***September 2019 – December 2019***
  Advisor: Dr. John Christian - Mechanical, Aerospace, & Nuclear Engineering

  Performed a literature review on standard practices for mesh registration techniques and global shape reconstruction, developed a lunar virtual reality environment using true lunar data, created an optimized star selection process to be used in StarNAV (autonomous spacecraft navigation by using relativistic perturbation of starlight) to select guide stars for navigation, attended 2nd RPI Space Imaging Workshop

- **Undergraduate Research**
  Sensing, Estimation, and Automation Laboratory (SEAL), RPI — ***January 2019 – May 2019***
  Advisor: Dr. John Christian - Mechanical, Aerospace, & Nuclear Engineering

  Developed a MATLAB script to convert asteroid and moon data into 3D meshes to model the objects in virtual reality, created a useful reference for the implicitly connected quadrilateral format commonly used in space science, worked with others to create a report identifying differences between triangular and quadrilateral meshes and benefits of each

- **Mechanical Engineering Intern**, Safran Optics 1, Bedford, NH — ***May 2018 – August 2018***

  Assisted the mechanical engineering team with various projects, provided support in CAD modeling, 3-D printing, prototype assembly, design of collimator/laser alignment fixtures, and preliminary design and setup for testing night vision range finders and goggles, also redesigned floorplan and layout of machine shop to be a functional space for engineering team

Works:

- Hayostek, S., **Thibeault, R.**, and Amitay, M. (2020). “Flow visualizations of finite cantilevered wings at low Reynolds numbers,” Gallery of Fluid Motion: 73rd Annual Meeting of the APS Division of Fluid Dynamics, Nov. 22 – Nov. 24 2020.
- Parker, W., **Thibeault, R.**, Quintero, G., and Christian, J.A. (2020). "Guide Star Selection for Spacecraft Navigation with StarNAV," 43rd Annual AAS Guidance, Navigation, and Control Conference, Breckenridge, CO, Jan. 30 – Feb. 5 2020.
- **R. Thibeault**, L. Hong, C. Hollenberg, and J. Christian, “Triangles vs. Quadrilaterals: Selecting the Right 3D Model Format for Space Science and Exploration,” 2nd RPI Space Imaging Workshop, 2019.
- L. Hong, **R. Thibeault**, and J. Christian, “Visualizing Space Data in Virtual Reality,” 2nd RPI Space Imaging Workshop, 2019.

Skills:

- Code Languages: MATLAB
- CAD: Siemens NX and SolidWorks
- STK Level 1 Certification
- Basic machine shop tools

Organizations/Volunteer:

- Sigma Gamma Tau, National Honor Society in Aerospace Engineering
  - Leadership: Events Coordinator ***Fall 2018 – Fall 2020***
- Reach Out Saint Rose

Honors:

- High School Valedictorian
- National Honor Society Member (2015-2017)
- RPI Gold Medalist Scholarship
- RPI Dean’s Honor List (8 semesters)