Brinton Montgomery

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EDUCATION

Bachelor of Science, Mechanical Engineering, Aerospace Emphasis **May 2027**
Utah State University, Logan, UT GPA 3.81

- Minor in Physics
- Concurrent MS Aerospace Engineering Program
- Dean's List Honoree

Associate in Pre-Engineering, Emphasis on Civil-Mechanical Engineering **May 2025**
Utah Valley University, Orem, UT GPA 3.80

WORK EXPERIENCE

AeroLab – Utah State University, College of Engineering **May 2025 - Current**
Student Research Assistant, funded by Engineering Undergraduate Research Scholars (EURS) Logan, UT

- Developing two FORTRAN-Python simulations to model the lift distribution along the wingspan and wake vortices generated by lift on an aircraft.
- Collaborating with senior researchers, applying problem-solving to improve modeling accuracy for the Induced Drag Reduction Project.
- Authoring a conference paper in Overleaf for the 2027 AIAA SciTech Conference, documenting research on induced drag reduction through optimized formation flight and wing lift distribution.

Take-A-Break Spas & Billiards **Apr 2020 – Dec 2024**
Warehouse Manager/Delivery Crew Member Springville, UT

- Enforced and maintained safety protocols to ensure a secure working environment by working with other managers and delivery crew members.
- Installed complex spa and billiard systems with a four-person team, troubleshooting on-site challenges to ensure timely, high-quality customer delivery.
- Communicated product installation details to clients and trained new crew members on correct installation methods to ensure reliable performance.

LHM Chrysler Jeep Dodge Ram **March 2022 – Sept 2022**
Lube Technician Level II Provo, UT

- Apprenticed with master technicians to gain advanced mechanical knowledge, strengthening diagnostic precision and troubleshooting skills.
- Performed oil changes and inspections with a four-person team, meeting a 45-minute service timeline.

RESEARCH PROJECTS

- **Induced Drag Reduction** **May 2025 – Current**
  Reducing induced drag by optimizing the wing's lift distribution and arranging multiple aircraft in formation flight through numerical modeling to decrease fuel consumption for military, commercial, and private sectors.
- **Howe Bridge Design** **March 2025 – May 2025**
  Collaborated with a classmate to design a bridge and analyze member stresses to meet a 50-lb maximum load requirement as part of the final project in Mechanics of Materials.

TECHNICAL SKILLS

- Programming (FORTRAN, Python, MATLAB, MS Excel)
- CAD Software (SOLIDWORKS)
- Technical Writing (Overleaf, MS Word)
- Vehicle/equipment maintenance & modification

INTERESTS

- Propulsion Systems
- Aerodynamics, Fluid Mechanics, Computational Fluid Dynamics, and Thermodynamics
- Rocketry Club at USU
- AIAA Design, Build, Fly Club at USU

LEADERSHIP & SERVICE

- Air Force ROTC Cadet, Brigham Young University, Provo, UT **Sept. 2022 – Dec. 2023**
- Malagasy-Speaking Volunteer, Religious Organization, Madagascar **Oct. 2018 – March 2020**