Cole Hetzel

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Education

DePauw University — Greencastle, IN
Bachelor of Arts in Pre-Engineering — *Aug. 2021 – May 2026*

Columbia University — New York, NY
Bachelor of Science in Mechanical Engineering — *Aug. 2024 – May 2026*

Experience

Thermal Engineer (Student) — May 2023 – August 2023
NASA L'SPACE Academy - Mission Concept Academy (MCA) — *Virtual*

- Collaborated with a team to develop a Preliminary Design Review (PDR) for a Ceres mission concept
- Designed and implemented a thermal management system for a rover concept
- Gained experience using Computer-Aided Design (CAD) software, particularly Siemens NX

Fluids Engineer — August 2025 – Present
Columbia Space Initiative- Rocketry Team — *New York, NY*

- Designed a high pressure nitrogen quick disconnect valve to decrease aerodynamic drag
- Designed a cryogenic liquid oxygen quick disconnect valve to increase vehicle performance
- Gained experience working with cryogenic fluid systems

Aerodynamics Team — August 2025 – Present
Columbia Airplane Club — *New York, NY*

- Performed aerodynamic analyses to size a banner for an RC aircraft
- Tested various banner materials and sizes at different speeds to characterize drag
- Designed and manufactured an aircraft empennage
- Verified empennage performance using Ansys Fluent CFD

Projects

Avalanche Rescue Tool — August 2025 – Present

- Collaborated with peers to develop an engineering solution to skiers trapped under snow in avalanches
- Designed and prototyped a power tool device that removes hard packed snow more efficiently than hand shoveling

Button Pressing Machine — August 2025 – December 2025

- Designed a machine capable of pressing colored buttons that light up in a random sequence
- Gained experience with mechatronic components and mechanical design principles
- Manufactured various machine components and linkages

Technical Skills

Software: SOLIDWORKS, MATLAB, Fusion360, Ansys Fluent, Python
Other: Rapid prototyping, CNC machining, GD&T, 3D printing

Activities

Varsity Cross Country/Track and Field — August 2021 – May 2024
DePauw University

Percussion Ensemble — August 2021 – May 2024
DePauw University

Columbia Space Initiative — September 2024 – Present
Columbia University

Columbia Design/Build/Fly — August 2025 – Present
Columbia University