

# Caleb Young

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• **Portfolio:** [https://cyoung604.github.io/cyoung\\_portfolio/](https://cyoung604.github.io/cyoung_portfolio/)

## EDUCATION

**Bachelor of Science, Mechanical Engineering (BSME)**

Montana State University, Bozeman, MT

**August 2022 - December 2026**

**3.22 GPA**

## Awards and Grants

Undergraduate Scholars Program Grant - Funded Experimental Fluids Research

Mark Cook Award for Undergraduate Research (2025-2026)

## TECHNICAL SKILLS

**Data Analysis:** PIV testing, Fluid visualization(DaVis), MATLAB, LabVIEW

**CAD and Prototyping:** SOLIDWORKS, Fusion 360, 3D Printing(MakerBot Sketch)

**Programming/Software:** Python

**Engineering/Hands-on:** Construction tools, CNC Machining

## PROFESSIONAL EXPERIENCE

**Undergraduate Researcher - Experimental Fluids Lab, Montana State University - Bozeman, MT**

**June 2025 - May 2026**

- Executed 80 PIV test runs across 4 blade configurations (2 blade types × 2 angles), with 5 repeated trials at 4 positions per configuration, to evaluate hydrodynamic performance and flow structure.
- Performed motion analysis, blade calibration, and laser illumination alignment for submerged particle visualization using DaVis.
- Designed and 3D-printed test fixtures to support force measurements and sensor calibration.
- Developed MATLAB analysis to post-process PIV velocity fields, including data import, filtering, numerical integration, and circulation plotting to ensure consistent comparison across 80+ datasets.
- Presented monthly research updates and collaborated weekly with graduate researchers and faculty to refine test procedures, data analysis, and results.

**Ranch Hand - Wayne Ranch, Bozeman, MT**

**May 2024 - September 2024**

- Supported framing and structural assembly operations, verifying dimensions and fit prior to installation to ensure build accuracy.
- Performed measurement and layout checks for roofing and framing components using tape measures and levels.

**Landscape Construction Laborer - Greenhaven Construction, Ridgefield, WA**

**May 2023 - August 2023**

- Assisted with landscape construction planning and site preparation.
- Utilized tools and machinery such as skid steers, mini excavators, and power hand tools.

**Metal Grinder/Machinist - Samson Sports, Camas, WA**

**July 2021 - September 2021**

- Supported Haas 5-axis CNC machining operations, assisting with setup, part handling, and post-machining finishing to specification.

## Volunteer Work

**Student Leader, Oaks International Campus Ministry**

**October 2023 - Present**

- Organized and coordinated weekly studies; led group discussion and weekly presentations.
- Managed students with weekly meeting logistics.
- Developed leadership and public speaking skills with weekly group facilitation.

**Work Crew, YoungLife**

**June 2022 - July 2022**

- Developed teamworking skills while working in dining hall/kitchen operations at camp
- Assisted in managing food prep and shift scheduling