Chase Allensworth

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Education

Oklahoma State University — Stillwater, OK
BS Mechanical Engineering — August 2022 - May 2026

Projects

UAS Sample Collection System (In Progress)
Designing a UAS-integrated sample collection system focused on improved sealing performance and increased sample volume. Developing SolidWorks CAD, supporting prototype fabrication, and aiding in testing.

Hydrodynamic Effects of Alligator Osteoderms (Project Lead)
Led a team in the design and fabrication of scaled-down alligator tail models, with and without osteoderms in order to investigate their effect on wake formation. Created complex surface geometry in CAD, coordinated 3D printing and experimental setup, and supported water-tunnel testing. Analyzed experimental results to evaluate how surface morphology influences hydrodynamic performance and flow behavior.

OSU Space Cowboys - NASA Design Competition
Contributed to the mechanical design of a dust-tolerant handle extension mechanism for a NASA-sponsored design competition. Modeled components and assemblies in SolidWorks, supported prototype development, and participated in design reviews. Coordinated with a team to meet project milestones and competition constraints. Our design was selected for testing at NASA's Johnson Space Center.

Robotics Design Competition
Worked on an 11-member team to design, manufacture, and integrate a competitive robot for a collegiate robotics competition. Designed and modeled mechanical components and assemblies in SolidWorks, supported fabrication and assembly, and collaborated with controls team members using Python-based systems. The team placed first in the competition.

Skills

Technical: SolidWorks(Parts, Assemblies, Drawings), Prototyping, Basic GD&T, Excel, Python, MATLAB

Work Experience

Oklahoma State University — Stillwater, OK
Undergraduate Researcher — September 2025 - Present

- Led end-to-end mechanical design and manufacturing efforts for a cell culture insert system as part of an undergraduate research role
- Created detailed SolidWorks parts with emphasis on tolerance control, sealing interfaces, and repeatable assembly
- Coordinated with a biology team to gather feedback from ongoing testing and translate results into design revisions.
- Managed iterative design cycles and documentation to support continuous improvement of the insert system.

Continental Carbon Company — Ponca City, OK
Mechanical Engineering Intern — June 2025 - August 2025

- Led a flow-stabilization project for a pelletizing system by analyzing historical and live process data and evaluating mechanical constraints
- Performed mass-flow and clearance analyses for equipment to assess design impacts on process stability and material handling
- Developed engineering documentation and data visualizations to support design recommendations

Oklahoma State University — Stillwater, OK
Research Assistant — September 2023 - June 2024

- Participated in weekly research briefings, gaining exposure to ongoing projects
- Engaged in hands-on fieldwork, including the setup, launch, and recovery of high-altitude balloons
- Assisted in research activities, collaborating with graduate students