

Avi Aggarwal

avi_aggarwal@mines.edu | 908 842 6294 | www.aviaggarwal.me

EDUCATION

Colorado School of Mines, Golden, CO

B.S. Mechanical Engineering

May 2027

Honors and Awards: Oredigger Leadership Community

Allen High School, Allen, TX

High School Diploma with STEM Endorsement

May 2023

Honors and Awards: Boeing STEM Scholar, NASA HUNCH Finalist

COMPLETED/CURRENT COURSEWORK

- MATH223 Calculus III Honors | MATH225 Differential Equations | MATH 307 Introduction to Scientific Computing
- CSCI128 Computer Science for STEM | CSCI200 Foundational Programming Concepts & Design
- EDNS151 Cornerstone Design | MEGN200 Programming and Hardware Interface | MEGN201 Design and Fabrication
- PHGN200 Physics II-Electromagnetism and Optics | CEEN241 Statics

ENGINEERING AND TECHNICAL SKILLS

- **Technologies:** Solid Works, Microsoft Office, 3D Printing, Python, C++, Arduino
- **Certifications:** OSHA 30-Hour General Industry Safety and Health, Solid Edge Associate Level, CPR
- **Professional:** Machine Shop Experience, Problem Solving, Public Speaking, Management, Leadership

RELEVANT EXPERIENCE

Compressor Engineering Intern, Sundyne, Arvada, CO

- Designed and demoed a new Compressor Test Database, improving usability and accuracy.
- Contributed to the EPR 1451 LO Vortex Study through test stand design, load calculations, pump sizing, and part sourcing.
- Built organized Inducer and Pump Case databases to streamline sizing and analysis requests.
- Created Item Masters in JDE and applied P&ID interpretation to support engineering workflows.
- Collaborated across teams to strengthen technical expertise in compressors, fluid mechanics, and machine design.

School Projects, Colorado School of Mines, Golden, CO

- **Arduino Lockbox** (MEGN200): Programmed and integrated a fingerprint sensor with an Arduino microcontroller to create a biometric security system; developed circuitry, wiring, and code logic for lock control. Also modeled overall housing for electrical components using SolidWorks.
- **Derby Car** (MEGN201): Produced detailed GD&T drawings and performed tolerance stack-up analysis; fabricated and assembled components; tested performance against design specifications and validated compliance.
- **Suitcase Redesign** (EDNS151): Applied CAD modeling and rapid prototyping to redesign a suitcase for improved usability; developed a mobile app in support of product functionality; contributed to design evaluation and iteration.

Mines Activities Council, Colorado School of Mines, Golden, CO

- E-Days Planning Committee
 - Organized vendors and booths for a carnival
 - Worked with a team of faculty and students to put together an event
- Movie Night Chair
 - Interviewed and joined the committee as 2024-2025 Movie Night Chair
 - Work with a movie licensing company to get permission to show movies on campus
 - Manage budget and work with a team to put on large events on campus
 - Organizes vendors for events and manages quotes
 - Created a new budget management system and assists with bugs and questions

Computer Science Teaching Assistant, Colorado School of Mines, Golden, CO

- Works with professors to create grading rubrics for assignments
- Assists students with Python-based programming and code reviews
- Holds office hours where students can come and ask questions
- Helps write assignments for students and ensures that they target key topics

ACTIVITIES

- American Society of Mechanical Engineers (ASME)
- Society of Asian Scientists and Engineers (SASE)
- Mines Marching Band
- South Asian Student Association at Mines (SASA)
- Mines Maker Society