Ava A. Spangler

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Education

The Pennsylvania State University: M.Sc. Geosciences and Operations Research *(Projected May 2025)*
University of Colorado Boulder: B.Sc. Civil Engineering. graduated Cum Laude. **3.76** *cumulative GPA*

Engineering Experience

2022- Wright Water Engineers, Summer Engineering Intern

- Researched and co-authored an ASCE journal article (in review) regarding current engineering practices being implemented to manage water related impacts of climate change.

2022- RockSol Consulting, Summer Engineering Intern

- Constructed custom AutoCAD storm sewer parts list, enabling faster and standardized drafting. Researched, modeled, analyzed, and proposed drainage systems for Denver projects.

2021- Colorado Department of Transportation, Summer Hydraulic Engineering Intern

- Developed hydrologic models and 2-D hydraulic models of ten culverts along Colorado State Highway 138, as well as designed and proposed the appropriate culvert replacements.

2020-2021- Undergraduate Researcher, University of Colorado Boulder

- Assistant Researcher on a Sustainable Water Sanitation and Hygiene Systems project, studying rural water service delivery in Uganda in order to ensure reliable water access for poor communities.

Technical Skills

- Watershed and Surface Water Modeling using WMS, HMS, SMS, and HY-8.
- Stream gauging and trail restoration.
- Advanced AutoCAD capabilities.
- Lab Safety and OSHA 10 certified.
- Research skills - literature reviewing, technical writing, oral presenting experience.
- NVivo qualitative data analysis software.

Extracurriculars and Leadership Experience

CU Engineering Fellow, 2022 - 2023

- Academically successful and service-oriented students who encourage excellence through focused peer academic support. Selection as a Fellow is one of the College's highest undergraduate honors.

Kiewit Design-Build scholarship program member – 2021- 2023

- Selective extracurricular program partnership with Kiewit, intended to build well-rounded engineers through mentorship programs, site visits, industry exposure, and educational enhancement.

CU Freestyle Ski Team Member, University of Colorado Boulder, 2019 - 2020

- Daily training managed in addition to engineering course load.

Scholarships and Achievements

National Science Foundation Graduate Research Fellowship – Awarded to promising sresearchers.
PSU Earth and Environmental Systems Institute Scholarship – For interdisciplinary researchers.
Milo S. Ketchum Award– Given to the most outstanding Civil Engineering graduating senior.
University of Colorado Chancellors scholarship – Awarded for academic excellence and achievement.
Donald Mackison Endowment Fund – Earned first place in the Mackison engineering writing contest.

Conference Publications

Spangler, Ava A, Javernick-Will, Amy, Linden, Karl, "Breaking Down the Breakdown Problem", *National Conference for Undergraduate Research*, Apr. 12, 2021.

Spangler, Ava A., Spendier, Katherine, "Analysis-Based Calibration of a Manual Coil Winding Machine", *Amer. Phys. Soc. Four Corners Conf.*, Fort Collins, Colorado, Oct. 20, 2017.