Ambitious Mining Engineering and Geoscience student interested in developing solutions for difficult challenges.

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Caelen Burand

Aiming to meaningfully contribute, broaden my skillset, and help create a positive impact.

Education:

**University of Arizona Honors College; Bachelor of Science: Mining Engineering and Geoscience; Math Minor**

4.0 GPA, Expected Graduation: May 2023

* + - Mineral Processing & Gem Science Emphases, Dean’s List, Highest Academic Distinction, Society for Mining, Metallurgy, and Exploration (SME) member, SME Tucson Scholar, Geologic-Institute Member, and Arizona Geologic Society Member.

**Centennial High School, Pueblo, Colorado, August 2015-May 2019**

4.0 GPA (unweighted), Graduated May 2019

* + - Senior Class President, Speech and Debate President, National Honor Society Vice-President.

# Experience:

**University of Arizona: *Transdisciplinary Research Coordinator,* Tucson AZ, Sept. 2021-Current**

* + - Responsible for designing and implementing a new transdisciplinary research hub dedicated to the production of ground-breaking discoveries, technologies, and ideas for mineral resourcing.

 **Mercury Free Mining: *Research Director*, Multiple Locations, November 2019-Present**

* + - Lead the planning and implementation of the research program to improve the well-being of artisanal and small-scale gold miners by minimizing or eliminating the use of mercury during gold ore processing, currently being piloted in the Peruvian Andes Required extensive knowledge of geometallurgy, mineralogy, and the socioeconomic constraints of miners.
		- Designed brand through creating creative content, writing, and creating media. Resulted in several thousands of supporters and an increased interest in responsible mining.

**Nevada Gold Mines: *Mining Engineering and Geology Intern,* Carlin Complex, Elko NV, May-August 2021 and 2020**

* + - Created a fragmentation camera software to analyze grain size distribution of gold ore using a cell-phone. Implemented with the effect of improving fragmentation methods which increases gold recovery. Required fluency in image processing and Matlab.
		- Designed and optimized mine planning by collecting, analyzing, and forecasting production rates, haul truck cycle times, and drilling efforts. Required fluency in Excel Power Pivot, Microsoft BI, Minestar, and Jigsaw.
		- Conducted analyses to optimize the handling of waste rock through designing inpit dumps and several safe haul roads up mountain slopes capable of holding an ~400 ton haul truck. Enabled safer and more effective mining.
		- Aided with geologic mapping, surveying, blast design, core logging, geotechnical monitoring, and other tasks as needed.

 **Last Chance Mine: *Underground Exploration Intern,* Creede, Colorado, June-August 2018**

* + - Worked with a team underground to stabilize historic underground workings and execute mineral specimen removal. Fostered skills in technical communication, teamwork, scarce resource utilization, and dynamic problem solving. Utilized geology, researching, prospecting, mineralogy, and geospatial skills.

# Leadership:

**Young Mining Professionals Arizona: *Founding Board Member,* October 2019-Present**

* + - Founded the first US chapter of Young Mining Professionals, an international organization designed to enrich the mining industry’s young leaders, shift mining’s image, and catalyze collaborative innovation.
		- Lead the successful implementation of local chapter and work with a team of young miners from across the globe to encourage practices that improve the well-being of miners and encourage responsible mineral resourcing.

**Society for Mining, Metallurgy, and Exploration: *VP of Professional Development*, August 2019-January 2020**

* + - Succeeded in creating an extensive professional network for the student members. Aligned industry-student interactions via presentations, mock-interviews, and workplace skill development workshops to enhance student competency and preparation to enter the mining industry.