Phoenix Garcia

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Software Engineering Undergraduate with a minor in Software Development for the Mining Industry. Seeking a Summer Internship for 2024. I have a particular interest in Data Engineering, Autonomous Systems, and Software Security. I'm looking to explore the software industry and see where my skills can be applied.

Education

University of Arizona - Graduating Fall 2025
Bachelors in Software Engineering
Minor: Software Development for the Mining Industry
GPA: 3.942

Extracurricular

Software Engineering Wildcats: Secretary, 2023-Present
Send twice weekly communications to 300+ interested students
Record executive meeting action items and send follow-ups

Women In Mining: Treasurer, 2023-Present
Formulate a budget based on predicted revenue and cost
Submit requests totaling $2,000 for 10 club events for the current year

UArizona Society of Mining Engineers: Member, 2021-Present

Work Experience

Research Assistant, University of Arizona- *Mine Autonomy and Autonomous Systems Lab* January 2023 - Present

In the MAAS lab, my purpose is both to develop technologies for the mining industry and to progress my education in software and mining. In the spring of 2023, I worked to create educational materials on UGV and drones for undergraduate mining engineers. In the fall of 2023, I will work on two projects. First, I will use IDEAS by Andritz to create a digital twin of a mineral processing plant for the UArizona simulation control room. Second, I will use machine learning to identify PPE in mining pictures.

- Recorded 9 videos of drone tutorials. Topics included: set-up, programming, an open-ended question, and a solution.
- Programmed a drone to fly a routine, fly with keyboard control, and track a face using python and the OpenCV library.

Metallurgical Engineer Intern, Elko, Nevada- *Nevada Gold Mines* May 2023 – August 2023

My summer as a metallurgical intern was split between my intern project and side projects. My main project was conducting a roaster oxygen flow trial. I'd sample ore, process the ore in the metallurgical lab, and analyze the results. Based on my data, I suggested reducing the oxygen flow to the roaster to increase gold recovery. On the side, I worked to optimize daily and weekly reporting excel sheets. I changed SQL queries from static to dynamic, I coded a function in VBS to create charts with daily updating axis, and I wrote SQL queries to import data that was previously hand entered.

- Intern project voted to be top 20 intern projects of 90 interns, and top 5 of metallurgical interns.
- Discovered a trend between residue arsenic and residue gold that suggests lower oxygen flow rates will increase recoveries.
- Reduce data refresh time of reports from ~10 minutes to ~1 minute. Saved my boss's time and patience.

Math Tutor, University of Arizona- *Think Tank* September 2022 - March 2023

- Tutored students in both one-on-one and group environment on Algebra and Calculus concepts to supplement lectures.
- Coordinated with other tutors to ensure the best experience for the students.

Projects

– Design, prototype, and implement a management software for a maker space with Software Engineering Wildcats*
– Performed threat modeling (STRIDE/DREAD) and static analysis on coding projects to fix vulnerabilities
– Organized and lead the construction of water features to restore wildlife in Ironwood National Monument

Relevant Coursework

SFWE	Software Assurance and Security
	Software Requirements Analysis and Test
	Software Architecture & Design*
CSC	Discrete Structures and Basic Algorithms*
ISTA	Data Engineering
	Data Warehousing and Analytics in the Cloud*
MNE	Data Analysis and Application Development

* To Be Completed by Summer 2024

Skills and Certifications

Teaching and demonstration
Planning and execution
Proficient in Excel, Power BI, SharePoint
3D modeling (AutoCAD, SolidWorks, Blender)
Beginner Proficiency of Spanish
First aid, CPR, and Scuba Certified
MSHA Surface and Underground Mine Certified

Software Tools

- C ★★☆☆☆
- C++ ★★☆☆☆
- Java ★★★☆☆
- Agile ★★☆☆☆
- SQL ★★☆☆☆
- Python ★★★☆☆
  - *Pandas* ★★★☆☆
  - *MatPlotPy* ★★☆☆☆
- Linux ★★☆☆☆
- HTML ★☆☆☆☆
- VBA ★★☆☆☆
- VS Code ★★☆☆☆