

Emma Ferran

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Education

2023-2027	University of Utah	Salt Lake City, UT
	<i>Honors Bachelor of Science in Mechanical Engineering</i>	GPA: 4.0
	<i>Bachelor of Art in Spanish</i>	
	<ul style="list-style-type: none">• Aerospace emphasis and physics minor (in progress)• SOLIDWORKS Associate Certification (CSWA)• Society of Women Engineers• Tau Beta Pi Engineering Society	
	<i>Relevant Coursework</i>	
	<ul style="list-style-type: none">• Manufacturing (lecture and lab)• Thermodynamics• Elements of Materials Science• Electrical Engineering for Non-majors (lecture and lab)• Physics I: Mechanics & Physics II: Electricity and Magnetism• Numerical Methods (lecture and lab)• Statics & Dynamics• Ordinary/Partial Differential Equations & Linear Algebra• Probability and Statistics for Engineers	

Projects

Nov 2024	Pathogen Spread Simulation (Numerical Methods)
	<ul style="list-style-type: none">• Peer-programmed in a team of 3, using Python to create a simulation modeling the spread of a pathogen through a crop field based on wind speed/direction and seasonal temperature cycles• Applied treatments to crop field as to minimize pathogen spread while balancing cost-effectiveness, effectively revenue-optimizing scouting and spraying routines
May 2024	Ping-Pong Launcher (Computer-Based Problem Solving-- Eng Sys)
	<ul style="list-style-type: none">• Peer-programmed in a team of 2, using Arduino C to program a launcher that moves along a single axis to shoot ping-pong balls into various targets• Optimized our robot to use reloading device to launch ping-pong ball into launcher, thus reducing reloading time• Qualified and participated in the semifinals
Nov 2023	Water Pump Design Project (Intro to Mechanical Design)
	<ul style="list-style-type: none">• Collaborated with a team of 3 to fabricate a water pump, learning essential design and prototyping skills

- Used SolidWorks to model pump and all subcomponents which we used to 3D print parts for prototype

Summer 2022 **Livermore National Laboratory STEM Outreach Program**

- Gained experience with 3D printers
- Tested trusses using stress tests to determine optimal structure
- Delivered a virtual presentation to participants and members of LLNL

Languages

- Python, MATLAB, Java, Arduino C
- Spanish: advanced grammar and intermediate conversation

Skills

- **3D Modeling Software:** SolidWorks (CSWA Certification)
- **Machining:** Mills, Lathes, Basic Shop Tools (Grinders, Saws, etc.)

Awards and Recognition

Spring 2025 **Tau Beta Pi Member**

2023 - 2025 **Dean's List**

Spring 2024 **Pedrozzi Scholar**

Spring 2023 **California State Seal of Biliteracy**

Spring 2022 **Sandia Women's Connection Science Award**

Work Experience

2024 – Present **Old Spaghetti Factory | Host, Trainer**

- Greets customers and facilitates a friendly environment
- Helps manage the seating of over 100 tables
- Onboards and trains new employees
- Assists in customer service situations
- Communicates effectively and professionally with managers and servers

2021- 2023 **Jamba Juice | Team Lead**

- Shift manager for 1-6 employees at a time
- Passed and exceeded EcoSure safety audits
- Problem-solved during customer service issues
- Trained and managed new team members frequently
- Facilitated a safe and fun place to work

Spring 2023 **Valley Dance Theatre | Teacher Assistant**

- Taught young dancers (ages 5-9) the fundamentals of ballet technique
- Created a safe and fun learning atmosphere