

# Gabriel Jordaan

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Location: Reno, Nevada, United States

## Professional Summary

Electrical Engineering student with a 4.0 GPA and deep grounding in physics, mathematics, and computational modeling and simulation. Has built reinforcement learning agents, physics-driven optimization frameworks, and high-performance simulation tools using Python, PyTorch, and C++. Brings strong systems thinking and cross-domain technical depth spanning simulation and hardware-software integration.

## Technical Skills

### Programming & Software

Python, C++, Embedded C, Verilog, JavaScript, R

### Machine Learning & AI

Reinforcement Learning, GANs, PyTorch, TensorFlow

### Electrical & Hardware Systems

Analog & Digital Circuit Design, Embedded Systems (AVR), PCB Design

### Scientific Computing & Data

NumPy, Pandas, Data Analysis, Data Visualization

### Design & EDA Tools

Altium, SolidWorks, FreeCAD

### Other Systems and Platforms

Linux, Raspberry Pi

## Independent Projects

### Quantitative Trading Framework | (GitHub)

- Designed and implemented a strategy-agnostic framework for rapid prototyping, evaluation, visualization, and deployment of trading strategies.

### Generative Adversarial Network (GAN) | (Kaggle, GitHub)

- Implemented a fully convolutional, reusable GAN architecture for image generation.

### Deep Q-Network (DQN) Agent — Space Invaders | (GitHub)

- Built an end-to-end reinforcement learning agent learning control policies directly from raw pixel observations.

### Structural Optimization Framework (PyTorch) | (GitHub)

- Developed a differentiable simulation based optimization framework for generating manufacturable truss bridge designs that have the highest critical load to weight ratio possible given constraints like span.

### Canvas Browser Extension — Greayout Modification | (Chrome Web Store, GitHub)

- Extended an MIT-licensed Canvas extension and shipped a new production-ready feature.

### Independent Game Project — 2147 | (Steam)

- Designed and shipped a geopolitical mystery/action game; managed full cross-platform release pipeline.

## Experience

<b>Chief Technical Officer — Contour Saddlery (Startup)</b>	2026–Present   Reno, NV
• Leading development of software systems for automated design of custom saddle trees.	
• Integrating 3D scanning, geometric modeling, and deep learning.	
• Responsible for system architecture and technical direction.	
<b>Founder &amp; Mathematics Tutor — Solvay Learning</b>	2025   Reno, NV
• Provided one-on-one tutoring emphasizing conceptual understanding and structured problem-solving.	
<b>Principal Owner — Westwind Landscaping</b>	2022–2023   Brunswick, ME
• Founded and operated a small landscaping business.	
<b>Founder / Principal Owner — Two-Coops Maine</b>	2015–2022   Maine
• Founded and operated a small agricultural business; donated produce to community organizations.	

## Education

<b>University of Nevada, Reno — BS in Electrical Engineering</b>	Third Year   GPA: 4.0   2025–Present
• Expanded course loads by special approval while maintaining a 4.0 GPA.	
• Activities: UNR Robotics Club, 3D Printing Club (design-to-fabrication).	
<b>University of Southern Maine — Coursework in Physics &amp; Mathematics</b>	GPA: 4.0   2022–2024
• Established a strong analytical and mathematical foundation prior to transitioning into electrical engineering.	
• Entered university coursework at age 15 after early completion of secondary education, pursuing advanced mathematics and physics alongside college-aged peers.	

## Internship-Specific Technical Strengths

- Reinforcement learning and control policy development
- Physics-informed modeling and optimization
- Embedded systems and hardware-software integration
- Circuit design, PCB development, and prototyping
- Data-driven analysis, visualization, and system evaluation

## Leadership & Multidisciplinary Work

**Project Manager, Hardware Developer, Music Module Developer — “Wetris” (Code on GitHub)**  
Led a four-person team to design and build a Tetris arcade machine with a water-spray loss penalty.

**Project Manager, Builder — Pratt Truss Bridge Construction**  
Lead a team of three in the construction of a model bridge whose design was generated by my bridge optimization framework available on GitHub.

## Volunteer & Service

<b>Volunteer Worker (Medical Mission Training) — HAND Philippines</b>	2025–Present
• Training for an international medical mission (April 2027).	
<b>Missionary Volunteer — TMBC, Nevada</b>	2024–2025 (18 months)
• Completed an extended service commitment and relocated to support community outreach.	

## Additional Information

**Interests:** Chess (competitive; SIR Chess Club, Chess.com), cello, strength training, hiking, skiing