

# 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 — Greyout 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

### Chief Technical Officer — Contour Saddlery (Startup)

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.

### Founder & Mathematics Tutor — Solvay Learning

2025 | Reno, NV

- Provided one-on-one tutoring emphasizing conceptual understanding and structured problem-solving.

### Principal Owner — Westwind Landscaping

2022–2023 | Brunswick, ME

- Founded and operated a small landscaping business.

### Founder / Principal Owner — Two-Coops Maine

2015–2022 | Maine

- Founded and operated a small agricultural business; donated produce to community organizations.

## Education

### University of Nevada, Reno — BS in Electrical Engineering

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).

### University of Southern Maine — Coursework in Physics & Mathematics

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

### Volunteer Worker (Medical Mission Training) — HAND Philippines

2025–Present

- Training for an international medical mission (April 2027).

### Missionary Volunteer — TMBC, Nevada

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