

TORIN NELSON

Boulder, CO 80301 | NelsonTorin1@gmail.com | (510) 673-1929 | [LinkedIn](#) | [Github](#) | [Website](#)

SKILLS

Python, Pytorch, REST, Git, Scikit-Learn, Machine Learning, Statistics, Hyperparameter Tuning, Data Cleaning, NLP, Quantum Algorithms, Quantitative Analysis, Application Development, AI-Assisted Programming

EDUCATION

University of Colorado, Boulder

Expected Mar 2027

MSCS in Computer Science (AI Specialization) | 4.0 GPA

University of California, Irvine

Jun 2024

B.S. in Computer Science (AI Specialization) | 3.7 GPA

PROJECTS

HDR-to-SDR Color Mapping Utility (hdrtosdr.com) - Python

Jan 2024–Present

- Engineered a production-ready desktop app (2,500+ downloads) using Python and FFmpeg for high quality mathematical tone-mapping.
- Designed a thread-safe, asynchronous rendering pipeline with real-time progress tracking, while securing binaries via machine fingerprinting and Azure signing.
- Streamlined development using agentic AI (Claude) and rigorous TDD (Test Driven Development); employed unittest.mock to maintain a floor of 90% test coverage.
- Developed a GPU-based video processing architecture that enhanced encoding performance by 400% through optimized support for Intel, AMD, and NVIDIA hardware.

Quantitative Analysis Betting Market Bot - Python

Nov 2025 - Jan 2026

- Engineered a comprehensive automated 24/7 trading bot for the Polymarket prediction platform using a robust Python execution engine.
- Implemented a "Smart Copy" system to analyze historical user performance, filter luck-based variance, and identify consistently profitable traders.
- Developed a stable, multithreaded polling architecture and complex execution rules, including slippage calculation and consensus weighting, to maximize profit.

Electricity Access Mapping via Attention UNet - Python

Jan 2024 - Mar 2024

- Developed an Attention UNet model using satellite imagery to identify underserved settlements in Sub-Saharan Africa lacking electricity.
- Achieved 75% accuracy and implemented explainable AI methods for result interpretation.
- Received the Future Prospects and Recognition Award for adapting a medical imaging model to satellite data.

EXPERIENCE

Sankaku Analytics

Feb 2026 - May 2026

Founding Engineer and CTO

- Developed the MVP for a high-performance data analytics platform, focusing on scalable backend architecture and efficient data processing.
- Implemented and optimized K-Means clustering algorithms for automated data segmentation and pattern discovery.
- Architected the core system from the ground up, making critical decisions on tech stack and data integrity to support rapid prototyping and iteration.
- Translated complex business requirements into a technical roadmap, balancing feature velocity with system stability.

Software Engineer - Open Source

Oct 2023 - Mar 2025

AI Code Bot - Remote

- Integrated Ollama as a model provider, enabling the application to connect with any locally hosted LLM (e.g., Llama 3, Mistral) for offline coding assistance.
- Abstracted the model interface to support dynamic model configuration, allowing users to seamlessly swap between any Ollama-supported model without changing the codebase.
- Expanded the existing test suite, writing new unit tests to validate Ollama API responses and ensure stability for local inference features.

Deputy Project Manager and CDH Systems Lead

Apr 2024 - Sept 2024

NASA L'SPACE - Remote

- Co-led a 12-person team through a NASA mission concept, delivering a 240-page PDR and revising the mission scope to fit a simulated 22% budget cut.
- Defined CDH subsystem requirements, establishing variable data transmission rates (1s Science / 30s Telemetry) to prioritize bandwidth for critical mission phases.
- Conducted trade studies for avionics and mechanical components (IMU, Motors), selecting hardware based on thermal operating ranges (-193°C to 111°C) and power budgets.