Ethan Haines

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Education

University of Florida — Gainesville, FL
Bachelor of Arts in Computer Science; GPA: 3.82 — *Expected May 2026*

State College of Florida — North Port, FL
Associate's in Liberal Arts; GPA: 3.6 — *Fall 2022 – August 2023*

Experience

Software Developer Intern — May 2024 – August 2024
SEMCO — *Bartow, FL*

- Automated an integration service to retrieve Sage Intacct data and update a SharePoint operations log every 4 hours.
- Connected Sage Intacct and Microsoft Graph APIs, and added Azure Monitor logging to improve reliability and troubleshooting.
- Used daily by **100+** employees tracking the status of **25+** different jobs at one time.

Projects

NEST (Nearest Extant Similarity Tool) | *Python, PyTorch, FAISS, OpenCV* — January 2026 – Present

- Engineered a computer vision similarity engine for fossil pollen analysis using DINOv3 embeddings and FAISS cosine similarity search to retrieve nearby extant grain matches.
- Collaborated with the Curator of Paleobotany and the Assistant Curator of Artificial Intelligence at the Florida Museum of Natural History to align NEST with museum research workflows.
- Designed an OpenCV slide-cropping and annotation workflow with persisted markers, species normalization, and metadata generation for downstream search.
- Ran embedding extraction with flip/rotation augmentation, batch inference, and GPU/CPU fallback to improve robustness across grain orientations.
- Processed and indexed **900+** grain images across **6+** species, then exported interactive t-SNE views and web-ready graph JSON (nodes/edges/manifest) for research demos.

Kalshi Weather Prediction Bot | *Rust, Tokio, Reqwest, Kalshi API, NWS, Open-Meteo* — February 2026 – May 2026

- Created an asynchronous Rust prediction-market bot for Kalshi temperature contracts using multi-model weather forecasts (GFS, ICON, ECMWF, GEM, NWS) with paper and live modes.
- Implemented risk-adjusted pricing and execution with normal-CDF probability estimation, uncertainty haircuts, spread/liquidity filters, model-agreement checks, and half-Kelly sizing.
- Integrated RSA-signed Kalshi API requests with environment-based demo/production configuration and order/trade logging.
- Added risk controls and post-trade analytics, including exposure caps, daily loss limits, circuit breaker logic, and reconciliation/reporting utilities.

ALAN (Academic LLM Analysis Network) | *Python, Bittensor, LLM Evaluation* — December 2025 – May 2026

- Prototyped a Bittensor subnet for academic peer review quality evaluation with a custom miner/validator protocol for structured review submissions.
- Built an OpenReview ingestion and preprocessing pipeline that normalizes reviews, generates paper metadata, and splits per-miner datasets for local subnet testing.
- Authored an LLM rubric scorer (6 weighted criteria) with JSON validation, caching, and confidence scaling for consistent review scoring.
- Orchestrated grouped-by-paper ranking and normalized reward assignment (exponential rank decay) to simulate validator scoring across miner responses.

Technical Skills

Languages: Python, Rust, JavaScript, SQL, C++, Java, C, HTML/CSS, Lua
Frameworks/Libraries: PyTorch, Transformers, FAISS, OpenCV, NumPy, scikit-learn, Matplotlib, React, Node.js, Express, Requests
Tools/Platforms: Git, Linux, Unix, Microsoft Azure, Postman, Jira, GNU Debugger, Bittensor, OpenReview, OpenAI API, Kalshi API
Core Competencies: REST APIs, Data Pipelines, Async Programming, Distributed Systems, Machine Learning, Computer Vision, LLM Evaluation, Similarity Search, Risk Management, Agile