Jose Sanchez Gonzalez

AI Engineer / RL Environments and Agent Evaluation

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Summary

AI engineer with an M.S. in Artificial Intelligence. Builds reinforcement learning environments, agent tooling, and evaluation harnesses that measure policy behavior, calibration, and transfer across controlled test conditions.

Technical Skills

Languages and ML: Python, C++, SQL, PyTorch, NumPy, XGBoost
Reinforcement Learning: PPO, Group Relative Policy Optimization (GRPO), behavior cloning, Gymnasium
Evaluation: Reward design, policy evaluation, calibration, retrieval metrics, adversarial test cases
Agents and Systems: LangGraph, MCP, FastAPI, Docker, Slurm, Isaac Lab, MuJoCo, Isaac Sim

Projects

Humanoid Robustness Ladder | Isaac Lab, MuJoCo, PPO, ONNX

- Built a headless simulation-to-simulation evaluation harness using the upstream deployment controller; automated policy export, domain-randomization sweeps, and MuJoCo rollout metrics.
- Evaluated five randomization settings over 450 MuJoCo episodes; measured 23.3% falls without randomization versus 0% for the default setting across 90 episodes per setting.

Agentic Match Forecasting | XGBoost, LangGraph, FastAPI

- Built a tunable-fidelity market simulator and a NumPy GRPO staking policy; evaluated policy transfer across five market-efficiency settings with explicit reward-hacking test cases.
- Connected three MCP servers through LangGraph and FastAPI; implemented approval-gated recommendations and a 28-task deterministic evaluation suite for tool use and adversarial prompts.
- Compared historical forecasting and policy results with prior, favorite, and closing-market baselines; documented the served synthetic demo separately from historical evaluation artifacts.

MetaNaviT: Research File Retrieval | Python, PostgreSQL, pgvector, MCP

- Implemented hybrid BM25/dense retrieval, reciprocal rank fusion, staleness filtering, and typed graph traversal; added query routing and approval-gated file operations through Model Context Protocol (MCP).
- Measured Recall@50 of 0.938 and nDCG@10 of 0.493 on 136 labeled queries over a 61-file fixture corpus, using hash embeddings and overlap reranking.

Bimanual Garment Folding | SmolVLA, PyTorch, Isaac Sim

- Integrated a 450M-parameter vision-language-action policy with PhysX cloth, three camera views, and the LeHome folding checker; implemented an OpenUSD Storm observer for simulator rollouts.
- Fixed particle-to-mesh indexing behind invisible garments in 11 of 33 recorded episodes; added geometry checks and separated demonstration replay results from trained-policy evaluations.

Experience

Graduate Teaching Assistant, Oregon State University | Sep 2025 – Jun 2026

- Led 2-hour studio sessions for 25+ students in Operating Systems I (C++) and Computational Methods (COMSOL); supported debugging, concurrency, memory management, and numerical simulation.

Math and Computer Science Tutor, Oregon State University | Nov 2022 – Jun 2025

- Tutored 50+ students in mathematics, programming, and computer science; adapted explanations and debugging guidance to individual learning needs.

Education

Oregon State University, Corvallis, OR
Master of Science in Artificial Intelligence | Jun 2026
Bachelor of Science in Computer Science (Applied: Data Science); Mathematics Minor | Jun 2025

Additional Experience

Berkeley Humanoid Lite hardware build (in progress): Soldered 22 magnetic encoders to motor controllers, 3D-printed structural parts, and began actuator calibration and limb assembly.