Nima Jafari

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Education

California State University, Northridge (CSUN) Fall 2022 – Spring 2026
B.S. in Computer Science | Cumulative GPA: 3.98/4.00

Honors & Awards

- **CSUN Computer Science & Engineering Department Scholarships Recipient**: 2023 Guerrera Endowed Scholarship; 2024 Engineering Merit Scholarship; 2025 Trustee Steven G. Stepanek Endowed Scholarship.
- **Iranian American Women's Foundation (IAWF)**: Scholarship Awardee 2024, 2025; active mentee and volunteer.
- **Dean's List**: Fall 2022; Spring 2023; Fall 2023; Spring 2024; Fall 2024; Spring 2025; Fall 2025 (ongoing).

Research & Work Experience

Research Assistant (Math & Artificial Intelligence) | University Corporation, CSUN Jan 2023 – Present

- Co-authored and contributed to funded proposals and projects in machine learning supported by NSF, AFOSR, and DARPA; 1 pre-print submitted to a journal (arXiv:2511.20138) with 2 additional works in progress.
- Built custom robotics environments with simulation and data logging for reproducible training, plus benchmarking scripts.
- Developed and evaluated models in reinforcement learning and deep learning: Our Custom Hasse Clustering Algorithm in Strategy-mining (Game v3) discovered two genuine winning strategies and a 2-node Hasse combination covering 100% of 125 winning episodes; DBSCAN split wins into three clusters (74 / 40 / 11 = 59.2% / 32.0% / 8.8%) and failed to unify strategies; hierarchical added spurious dependencies.
- Robustness & generalization: under 10% corruption, the best Hasse clustering combination was unchanged with no coverage loss (100% $\rightarrow$ 100%) while DBSCAN/hierarchical only matched the same consensus under tuned settings.
- Presented our work at CSUN seminars and events: CSUN 2024 Math Open House, Air Force Office of Scientific Research (AFOSR) 2025 Computational Cognition & Machine Intelligence Program Review (Washington, D.C.), and other schools in the U.S. and abroad, including the University of Rosario (Colombia).

Co-founder (Full-Stack Development) | ZafriAI Aug 2025 – Present

- Prototyped full-stack AI apps and explored sponsorship/commercialization strategies.

Robotics Intern | MISAN Robotic Foundation Jun 2020 – Jun 2021

- Contributed to intelligent firefighting and emergency robotics concepts; learned coding and mechatronic assembly basics.

Skills

Programming: Python, Java, C++, JavaScript/TypeScript, HTML/CSS, SQL (PostgreSQL, MySQL, SQLite)
AI/ML: Reinforcement learning (PPO, Stable-Baselines3); deep learning (PyTorch, TensorFlow/Keras); supervised learning (classification & regression: SVM, logistic/linear regression, decision trees/Random Forest, k-NN, Naive Bayes); retrieval-augmented generation (RAG); LLM orchestration (LangChain); unsupervised clustering (DBSCAN, hierarchical); time-series forecasting; Jupyter
Frameworks: FastAPI, Node.js/Express, Next.js, React, Tailwind CSS, Electron, Playwright
Data/Infra: Neo4j, PostgreSQL, MySQL, SQLite, Redis, MinIO, Docker, Docker Compose, Alembic
Tools: scikit-learn, NumPy, Pandas, PDFKit, Git, unit testing/pytest, REST APIs
Languages: English (Fluent), Farsi (Fluent), Georgian (Intermediate), German (Intermediate)

Selected Projects

Strategy Mining in Custom RL Environments (Research & Publication)

- Built OpenAI-Gym-style robotics tasks for navigation/plan execution; trained PPO agents (Stable-Baselines3); added reproducible simulation, experiment logging, and benchmark ablations. (Python, PyTorch, SB3, Jupyter)
- Developed an RL to symbolic pipeline: derived dependency matrices and developed a custom Hasse diagram-based clustering algorithm; compared against DBSCAN/hierarchical and tested robustness under controlled corruption. (Python, Jupyter)

CycleKindAI (LLM-powered Privacy Menstrual Health App)

- Hybrid RAG pipeline with FastAPI, Neo4j, Postgres, local LLM via Ollama or API's, Redis/MinIO services, and Docker Compose; designed citation-first answers and consent-forward data flows.

CareerLift (LLM-powered Career Platform)

- End-to-end stack: FastAPI (Python 3.12), Pydantic, LangChain, Playwright scraping, Neo4j graph DB, Next.js 15/React 19 + TypeScript + Tailwind, Electron desktop, Docker Compose.

JobApplyX (Local-LLM Job Auto-Apply)

- Chrome/Edge MV3 extension + Node/Express backend with SQLite and Ollama; parses job descriptions, answers screening questions, and generates cover letter PDFs (PDFKit).

Weather Forecasting with TensorFlow

- Keras ANN with notebooks for training/inference on historical weather data.

StonksMachine (PyTorch Experiments)

- Early time-series prediction experiments for stocks/crypto in Jupyter using PyTorch.

J.E.N.I Car Rental Application

- Team-built multi-service app; designed DB schema and backend services; integrated AWS RDS and remote tunneling for development.

Leadership & Service

Alpha Lambda Delta Honor Society (Co-founder) 2023 – Present

- Served as Treasurer for the 2024 academic year.

CSUN Hiking Club (Co-founder) 2023 – Present

- Organized weekend hikes and logistics; grew membership to ~40 active participants.

Community Engagement Ongoing

- Volunteer: American Red Cross (LA fire), United Methodist Church of Northridge (Wednesday labor crew), The Church at Rocky Peak (Café; Young Adults worship band).
- Active member of the USTA and City of Sylmar tennis team.