Nina Ervin

San Diego, California| (425) 559-3428 | nina.ervin4@gmail.com | ninaiervin.github.io | linkedin.com/in/ninaiervin | github.com/ninaiervin

EDUCATION

Master of Science Computer Science Emphasis in AI

University of California, San Diego, San Diego, CA ⸻ *Sep 25 – Dec 26 (anticipated)*

- **Extracurriculars**: Society of Women Engineers (SWE), Engineers Without Borders (EWB)
- **Relevant Coursework**: Data Mining & Recommender Systems, Probabilistic Reasoning and Decision-Making

Bachelor of Science Computer Science, Outstanding Graduate in Computer Science, Magna Cum Laude ⸻ **GPA: 3.98**

Western Washington University (WWU), Bellingham, WA ⸻ *Sep 23 – Jun 25*

- **Awards**: CS Distinguished Scholars Scholarship Award (24), Grace Hopper Conference Funding (24), President's list (23-25)
- **Extracurriculars**: Society of Women Engineers (SWE), Computer Science Distinguished Scholars (23-25)
- **Relevant Coursework**: NLP, Machine Learning, Deep Learning, Linear Algebra, Probability, Algorithms and Data Structures

Associate of Science, Graduated with Honors, Washington State Running Start Program ⸻ **GPA: 3.94**

Cascadia College, Bothell, WA ⸻ *Sep 21 – Jun 23*

EXPERIENCE

Lead Undergraduate Researcher - Hutchinson Machine Learning Research, Pacific Northwest National Labs ⸻ *Mar 24– Jun 25*

- Engineered deep learning models for climate forecasting to reduce computation and storage for climate analysis.
  - Implemented an end-to-end variational autoencoder in Python using PyTorch, NumPy, and Matplotlib, achieving 164× data compression with Mean KS scores of 0.016 (generated vs. test) and 0.015 (validation vs. test); authored a detailed report in LaTeX documenting methodology and results.
  - Collaborated on expanding an Earth System Model Emulator to jointly model dependent variables, such as temperature and precipitation, while maintaining temporal coherence of hot streak and dry spell metrics and reducing model generation time by ~50%.
- Communicated actionable insights from research by presenting findings to climate experts at Pacific Northwest National Labs (PNNL) and adapting explanations for diverse audiences.
- Enhanced collaboration and knowledge exchange by successfully leading and contributing in small, fast-moving teams
- Sharpened presentation and communication skills by delivering quarterly presentations on research.

Computer Science Tutor – Western Washington University ⸻ *Sep 24 – Jun 25*

- Served as the department's lead data science tutor within the Computer Science tutoring program, supporting students by providing advanced guidance in machine learning, deep learning, and analytical modeling.
- Applied an iterative, feedback-driven teaching process to translate complex CS and ML concepts into intuitive explanations, strengthening technical communication, adaptability, and conceptual clarity.

International Collegiate Programming Competition (ICPC) – Regionals ⸻ *Feb 24*

- Earned 4th place in a local team programming competition, solving timed problems, evaluating efficiency and accuracy.

PROJECTS

Energy-Efficient Transformer Analysis for Climate Misinformation Detection – *Python, PyTorch, Hugging Face, BERT*

- Designed and fine-tuned transformer-based LLM models of varying parameter sizes in Python using PyTorch, Hugging Face BERT, and Sentence Transformers on climate misinformation claims from social media, achieving 75% precision while reducing fine-tuning CO_2 emissions by 29× and pretraining emissions by 217,000×, highlighting the impact of model scaling on computational efficiency and carbon footprint in NLP applications.

Machine Learning for Predicting the Day Based on Daily Average Temperature

- Achieved top performance, getting a MSE = 0.0003 and predicting <1 day off on unseen test data by designing a transformer in Python using PyTorch and NumPy, optimizing hyperparameters, conducting in-depth analyses, and authoring a performance report in LaTeX.

LANGUAGES & SKILLS

Languages & Packages: Python, SQL, R, Java, C, PyTorch, TensorFlow, Hugging Face, scikit-learn, NumPy

Technical Skills: Git, deep learning, statistical modeling, data mining, data pipelines, Linux, LaTeX, optimization

Soft Skills: critical thinking, communication, problem solving, working in teams, time management, relationship skills