Elvin Li

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Education

University of California - San Diego — San Diego, CA
Mathematics - Computer Science (B.S.) | GPA: 3.90/4.00 — *Expected: 2026*

Relevant Coursework: Advanced Data Structures & Algorithm Design, Computer Organization, Machine Learning, AI Algorithms, Stochastic Processes, Real Analysis, Convex Optimization, Linear Algebra, Numerical Analysis, NLP

Research Articles

AAAI'25 AICS (Accepted): E. Li, Z. Shang, O. Gungor, T. Rosing, "SAFE: Self-Supervised Anomaly Detection Framework for Intrusion Detection". [Link]
IEEE-SafeThings'25 (Accepted): J. Chen, Z. Shang, **E. Li**, O. Gungor, T. Rosing, "DYNAMITE: Dynamic Defense Selection for Enhancing Machine Learning-based Intrusion Detection Against Adversarial Attacks"
IEEE-CSR'24 Conference (Published): O. Gungor, **E. Li**, Z. Shang, Y. Guo, J. Chen, J. Davis, T. Rosing, "Rigorous Evaluation of Machine Learning-Based Intrusion Detection Against Adversarial Attacks" [Link]

Experience

Amazon.com — Jun 2025 – Sep 2025
Software Development Engineering Intern — *Seattle, WA*

- Incoming Summer 2025 Software Engineering Intern for Amazon Ads

Systems Energy and Efficiency Lab at UC San Diego — Oct 2023 – Present
Machine Learning Research Assistant — *San Diego, CA*

Self-Supervised Machine Learning Research

- First author of a novel self-supervised machine learning framework in leveraging masked autoencoders for tabular network intrusion data, accepted to AAAI'25 AICS.
- Developed a masked autoencoder to extract latent space features for SOTA anomaly detectors on tabular data, introduced as a new framework for effectively applying image-based autoencoders to tabular datasets.

Adversarial Machine Learning Research

- Second author of an IEEE-CSR'24 publication on the potency of various adversarial machine learning algorithms.
- Co-author of an IEEE-SafeThings'25 paper detailing a defense selection method for adversarial attacks in network intrusion detection systems.

Scripps Institution of Oceanography — Sep 2023 – Jun 2024
Natural Language Processing Research Assistant — *San Diego, CA*

- Implemented statistical learning models (KNN, XGBoost, etc.) and fine-tuned large language models (BERT, GPT) on climate corpora, creating climate topic classifiers for regional analysis of prevalent climate issues.

Activities

Stanford University Code in Place | *Section Leader*

- Hosted live weekly programming lessons for CS106A (Programming Methodologies), facilitating a learning environment for a cohort of 15 students on introductory data structures and programming principles.

Triton NeuroTech | *Machine Learning Team*

- Developed an LSTM with 90% accuracy for the Neural Prosthetics Group, effectively leveraging EMG technology to translate muscle signals into robotic movements for prosthetic limbs.

Projects

Bayesian Optimizer | *PyTorch, SciPy, NumPy*

- Developing a Python library for mathematical optimization tasks, specifically derivative-free methods to maximize/minimize black-box functions such as machine learning hyperparameter tuning.
- Leverages Bayesian methods, stochastic approaches, and numerical techniques to estimate objective functions and sample datapoints efficiently

Technical Skills

Languages: Python, C/C++, Java, Assembly (ARM), SQL, HTML/CSS, LaTeX
Machine Learning: PyTorch, TensorFlow/Keras, Scikit-Learn, Pandas, NumPy, Matplotlib, OpenCV, HuggingFace
Developer Frameworks: Flask, Django, SQLite, SQLAlchemy
Developer Tools: Git, Jupyter Notebook, Visual Studio Code, Vim, Kubernetes, Docker