Erik Luu

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Education

California Polytechnic State University, San Luis Obispo
M.S. Computer Science, *June 2024 (expected)*
B.S. Computer Science, *June 2023*

Skills

Languages: Python, C, C++, TypeScript/ JavaScript, Java, SQL, R, HTML
Libraries: PyTorch, SciKit-Learn, Pandas, NodeJS

Projects

LociBrain // Graduate Thesis *(Machine Learning + Software Engineering)*   *Summer 2023 - Present*

- Engineering scalable methods for simulating, interacting with, and evolving neural cellular automata based models.
- Creating collaborative thinking tools with interfaces between LLMs, artificial organisms, and humans.
- Building interactive visualizations in Python to enable real-time interaction with the model.

AccessibleMaps // Undergraduate Thesis *(Backend Software Engineering)*   *Winter, Spring 2023*

- Designed a custom API to support efficient route calculations based on sidewalk grade.
- Developed backend infrastructure to facilitate the web-based application.
- Integrated sidewalk grade analysis to ensure ADA-compliant accessible routes for a range of capabilities.

LociMaps // Undergraduate Research *(Machine Learning + Software Engineering)*   *Winter 2023 - Present*

- Developed a "pirate" map allowing navigation and reasoning upon large knowledge bases via immersive interfaces.
- Surveyed and applied ML techniques for embeddings, dimensionality reduction, and label generation using LLMs for the organization of files and abstraction of topics semantically.
- Integrated concepts from cognitive neuroscience and affective computing to generate visualizations.

Quantifying Happiness // Undergraduate Research *(Data Science)*   *Winter 2021*

- Conducted an analysis on global happiness and its determinants based on *The World Happiness Report.*
- Employed statistical techniques including a variety of statistical tools and regressions to analyze and model the data.
- Built a predictive model using factors such as population, social infrastructure, and GDP—achieving an R-squared $(R2)$ value of 0.7.

Experience

Cylerian LLC // Software Engineering Intern *(Full Stack)*   *Summer 2022*

- Architected and implemented a one-click marketplace plugin for Cylerian's security focused platform.
- Analyzed clients' Google Cloud projects' user and logging activity with interactive dashboards, reports, and graphs.
Technologies: NodeJS, Google Cloud Platform, AWS, Terraform

Noyce School of Applied Computing // Data Analyst *(Computer Vision)*   *Spring 2022*

- Collaborated with a professor on a team to develop a CV model using PyTorch to assess wildfire damage from aerial imagery.
- Boosted model accuracy from 60% to 75%.
Technologies: PyTorch, QGIS, Bash

Noyce School of Applied Computing // Software Engineer, Team Manager   *Winter 2022*

- Headed a project team to structure and index national and California state search and rescue forms.
- Built a ReactJS platform to organize records and enable keyword searches.
Technologies: Pandas, ReactJS

Awards & Other Experience

Central Coast Data Science Fellowship: *Fall 2022 - Spring 2023*
- Implemented an LDA clustering method wrapper for R package 'tidymodels'. Led tutoring sessions for intro students.
NCAA D1 Cross Country and Track Athlete: *2019 - Present*