

# Erik Luu

eeluu19@gmail.com [erikluu.github.io](https://erikluu.github.io) 206.498.2233

## 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 2022

- [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 (R<sup>2</sup>) 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