

Erica Luo

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EDUCATION

University of Washington

B.S Informatics, B.S. Psychology

Deans List: 3.86 GPA

Expected Graduation: June 2026

Minors: Data Science, Architecture

- Psychology Honors Thesis: Evaluation of clustering algorithms for reproducing latent class model structures
- **Courses:** Data Structures and Algorithms, Client-side Development, Database Management, Product Management

EXPERIENCE

User Experience Intern- Financial Intervention App for Young Adults

June 2024 - Present

Psychiatry and Behavioral Sciences, UW School of Medicine

Seattle, WA

- Contributed to the design and usability testing of a mobile app aimed at supporting young adults with alcohol use challenges by tracking their budgets
- Conducted and facilitated 2 individual user interviews, applying qualitative methods to uncover user needs; synthesized feedback to inform feature design and app improvements
- Analyzed qualitative data from 2 young adult focus groups, coding qualitative data to identify behavioral patterns, motivations, and barriers to engagement
- Co-authored and edited a research summary report for 4 focus groups, later presented at the 48th Annual Research Society on Alcohol Scientific Meeting in New Orleans, LA

Undergraduate Teaching Assistant

September 2023 – Present

University of Washington iSchool

Seattle, WA

- Teaching Assistant for INFO 103: Social Media Ethics and Automation and INFO 201: Foundations of Data Sci
- Leading weekly programming lab sessions for 25 students, facilitated discussions on ethical implications of automation, AI, data science, and social media
- Delivered instruction on programming fundamentals and real-world applications using Reddit and Bluesky API
- Proactively identified gaps in content by collaborating with instructing team, initiated and co-developed 4 weeks of lab content that increased concept recall by 15%

Data Processing Research Assistant

November 2024 – July 2025

Foster School of Business

Seattle, WA

- Assisted in a multidisciplinary menstrual cycle study analyzing behavioral, hormonal, and mood fluctuations through longitudinal data collection
- Extracted, cleaned, and preprocessed complex survey and biometric datasets from 100+ participants using R (tidyverse) and Python (pandas, numpy), ensuring data quality and consistency for downstream analysis
- Automated data validation and transformation pipelines to streamline analysis workflows and improve reproducibility
- Managed study logistics including issuing participant reward payments, maintaining compliance with study protocols

Accessibility Research Assistant

March 2023 – August 2023

Psychiatry and Behavioral Sciences, UW School of Medicine

Seattle, WA

- Assisted in Garvey Institute for Brain Health Solutions-funded project “Reducing barriers to accessing mental health care using a web-based program for young adults”
- Transcribed and summarized the findings of 4 focus group recordings with young adults on issues of access to mental health care

Research Intern

October 2021 – June 2022

Psychiatry and Behavioral Sciences, UW School of Medicine

Seattle, WA

- Coded and analyzed qualitative survey responses to identify thematic patterns for an NIH-funded intervention study on coping-motivated alcohol use
- Designed and implemented online recruitment advertisements to support participant enrollment
- Beta tested web-based intervention modules and participant survey instruments, providing feedback to improve usability and data quality

RESEARCH AND ACADEMIC PROJECTS

Psychology Honors Research Project

November 2024 – Present

Supervisor: Professor Brian Flaherty, Ph.D

- Conducting an empirical comparison of multiple clustering algorithms (Hierarchical, K-means, DBSCAN, Algorithmic, Fuzzy, ROCK, DIANA) to evaluate their ability to recover latent class model structures using both simulated and real-world datasets, with findings intended for conference poster submission
- Implementing clustering analyses and Monte Carlo simulations in R (RStudio) to assess model performance and stability
- Authored a formal honors thesis research proposal, including literature review, methodology, and analysis plan

Informatics Capstone Project

January 2025 – Present

Project Sponsor: Amazon

- Collaborating with a 5-member interdisciplinary team to design and prototype an automated drone-based system for vehicle inspection
- Developing data processing dashboard (React.js) with AI powered damage detection (Pytorch) to support inspection accuracy and automation
- Leading data science and front-end dashboard development, translating model outputs into actionable visual insights for stakeholders and creating data pipeline for user submission of photos and testing data generation

NextChapter - Book Exchange Web App

January 2024 – March 2024

Front End Web Developer

- Developed a fully responsive, mobile-first web application using HTML, CSS, React, and Firebase; enabling users to donate and swap books seamlessly across devices
- Designed responsive, accessible, and mobile-first UI layouts in Figma and implemented them with modular CSS across the web application
- Built and styled key UI components including the book submission form, user profile page, and navigation bar
- Used React to create dynamic, reusable form components and manage state across the submission workflow

Bird-Safe Window Informational Retail Website

March 2024 – June 2024

UX Researcher

- Led end-to-end UX research to inform the design of a retail website promoting bird-safe glass and architecture
- Conducted preliminary research on the harms of large windows and study space design
- Designed and conducted two rounds of semi-structured user interviews (5 participants each), applying qualitative analysis techniques such as thematic coding to extract key insights and user needs
- Designed and iterated interactive Figma prototypes based on user insights and stakeholder needs

Pet Retail Store Database

June 2023 – July 2023

Database Designer + Developer

- Designed and implemented a normalized relational database schema to manage invoices, inventory, user profiles, and product data
- Developed advanced SQL queries and applied relational constraints to ensure data integrity and optimize performance
- Validated and debugged database entries to improve system reliability and support business operations

SKILLS

Research & Professional Skills:

- Usability research and evaluation, focus group facilitation,
- Qualitative and quantitative data analysis for user insights, wireframing, prototype development, research-informed design iteration and evaluation
- Technical and academic writing, research documentation, project planning, collaborative teamwork
- Experimental design, survey design, and data visualization for research insights

Technical & Data Skills:

- **Programming Languages:** Python, R, Java, JavaScript, SQL, MATLAB, HTML/CSS, React.js
- **Machine Learning & Data Tools:** PyTorch, scikit-learn, RStudio, JupyterHub, Tableau, GitHub
- **Design & Collaboration:** Figma, Canva, Delve, Miro, Microsoft Office Suite