Rachel Lin

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Education

University of California, Berkeley — Berkeley, CA

M.S. in Electrical Engineering and Computer Science — *Expected Graduation: May 2025*

- GPA: 4.0/4.0 | Relevant Coursework: Large Language Model Agents, Human-Computer Interaction Research

B.A. in Computer Science, Minor in Data Science — *Aug. 2020 – May 2024*

- GPA: 3.82/4.0 | Relevant Coursework: Machine Learning, Data Engineering, Database Systems, Natural Language Processing, Data Structures & Algorithms, Computer Security, Probability, Web & HCD

Technical Skills

Front End | React, JavaScript, TypeScript, HTML/CSS, styled-components
Back End | Python, Java, C/C++, SQL (postgres), MongoDB, Assembly, Flask
Libraries & Developer Tools | pandas, NumPy, Matplotlib, Microsoft Azure, Scikit-learn, Modal, Asyncio, Git, Figma
Languages | English (native), Mandarin (native)

Work Experience

OmniVision Technologies — Santa Clara, CA

Data Algorithm Intern — *May 2022 - Aug. 2022*

- Generated 15 LED light automobile video simulations and their corresponding binary maps in Blender. Partitioned data into 80-20 split for cross-validation with OpenCV.
- Created a classifier using PyTorch's neural network module with ReLU and fully connected layers, achieving **(∼93%)** accuracy in identifying LED light sources.

Research Experience

UC Berkeley RISE Lab — Berkeley, CA

HCI Research Apprentice, supervised by Professor Aditya Parameswaran — *May 2024 - Present*

- Developing a conversational search interface using OpenAI Assistants API and React for a dataset retrieval system, enhancing user engagement through responsive interaction.
- Building a sunburst chart for visual dataset organization, simplifying top-level exploration.

ML Research Apprentice, supervised by Professor Aditya Parameswaran — *Sept. 2023 - May 2024*

- Led a comparative performance analysis of ChatGPT, KNN, and Logistic Regression models for missing data imputation by consolidating **100** performance curves for each model.
- Implemented batch calls for Hugging Face embeddings and parallelized seed runs on Modal's cloud functions, reducing computation time from 2 weeks to **6 hours**.

UC Berkeley Cognition and Action Lab — Berkeley, CA

Computational Research Apprentice, supervised by Professor Richard B. Ivry — *May 2023 - Jan 2024*

- Engineered a predator-prey reinforcement model to simulate prey movements based on the predator's prior 3 locations to calculate acceleration and velocity. Visualized paths per timestep using Matplotlib.
- Streamlined the data transfer process by facilitating the integration of patient testing results into CognAc's database, encompassing **(1500+)** participants.

Projects

HYSE | *Python, React, TypeScript, Large Language Models, Flask, PostgreSQL*

- Executed an ELT pipeline using CKAN API for data extraction, storing datasets in PostgreSQL with pgvector.
- Constructed personalized filter widgets and delivered clarification via Azure OpenAI function calling, increasing user satisfaction by **(70%)** through faster access to relevant datasets.

Gitlet | *Java*

- Designed and built a version-control system modeled after Git which allows users to track & commit file changes, revert to previous versions, create & merge branches, and implement remote features.