Lana Chloe De Dios Lim

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EDUCATION

University of California, Los Angeles — Expected June 2025
B.S. Computer Science and Engineering, Minor in Mathematics — GPA: 3.85/4.00
Relevant Coursework: Data Structures, Algorithms, Computer Systems, Operating Systems, Computer Networks, Linux/UNIX, UI/UX, Databases, Software Engineering, Compilers, Machine Learning, Statistical Inference/Analysis

SKILLS

C/C++ • Python • Java • JavaScript • HTML/CSS • PyTorch • Tensorflow • SQL • Linux/Unix • Git • MATLAB

EXPERIENCE

AI/ML RESEARCH INTERN | UCLA Henry Samueli School of Engineering & Applied Science — Jan 2024 – Present

- Developing ***Graph-Diffuser***, a score entropy discrete diffusion (SEDD) model that generates tokenized graphs via a MCMC-based predictor-corrector step.
- Migrated training pipeline from Colab to BC's GPU cluster using a **single-command Slurm launcher + Docker**, enabling week-long jobs with automatic checkpoint recovery and persistent storage.
- Automated nightly **regression tests (GitHub Actions)** retraining on a 50k-graph synthetic dataset and comparing metrics to baseline. Detected and blocked **3 faulty commits** over 2 months; averaged a **-7.8% FID** improvement.
- **Cut training RAM 2x (14GB to 7GB)** via flattened adjacency matrix preprocessing for large graph datasets.

UNDERGRADUATE TEACHING ASSISTANT | UCLA College of Letters & Sciences — Mar 2024 – Jun 2024

- Teaching assistant for a lower-division applied math course (Life Sciences 30B).
- Led weekly instruction for **20+ students** on multivariable nonlinear systems, created custom lab exercises, and earned a **98% positive student feedback** in the end-of-the-quarter class survey.

UNDERGRADUATE RESEARCHER | W.M. Keck Center for Neurophysics — Sep 2023 – Dec 2023

- Co-developed a **C++/OpenCV** tracking service that captures a rodent's movement on a spherical treadmill, streams sensor data at **100Hz**, and draws a 2-D path in real time **(15 ms lag, 85% median IoU)**.

UNDERGRADUATE RESEARCHER | Neptune Laboratory — June 2022 – Sep 2022

- Refactored old legacy LabVIEW software into **async Python scripts**, boosting data acquisition rate from 1Hz to **50Hz** and reducing run time **90%** on Tektronix TBS1152B hardware.
- **First-author publication** in the 2022 UCLA SURP Research Journal featuring this project.

PROJECTS

RISC-V CPU SIMULATOR — Computer Systems, Computer Architecture | Fall 2024

- Designed a **C++** single-cycle processor that executes a subset of **10+ RISC-V instructions**, integrating a fully functional **datapath and controller**.
- Contributed **5 edge-case tests** to the class shared test suite that validated both binary and assembly program traces.

LLM DRIVEN SECURITY VULNERABILITY REPAIR — LLMs, Theoretical ML, Computer Security | Spring 2024

- 1 of 4 devs to engineer a semi-automated evaluation tool leveraging a **fine-tuned CodeT5** that flags CVE bugs; GPT-3.5 chain-of-thought prompts patch them to achieve a **54% repair rate** on a SVEN test suite.
- Swapped CodeT5's original transformer decoder with a lightweight **MLP**, debloating model size and **halving training time.**

BREWIN++/BREWIN# INTERPRETER — Programming Languages, Object Oriented Design | Fall 2023

- Implemented an interpreter for a custom statically-typed OOP language (Brewin++), supporting variables, control flow, functions, etc. Extended the language (Brewin#) by adding exception handling and generic classes.

HOME ROUTER SIMULATOR — Computer Networks, Computer Architecture | Spring 2023

- Built a home router in **C++** from scratch, implementing NAT/NAPT for TCP/UDP traffic routing and basic firewall ACL rules.
- Optimized system to process **100 packet transfers within 300ms** and handle up to **15 parallel connections**.