Thousand Oaks, CA
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Kali Hale

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Research Interests

Distributed computation, secure computation, privacy-preserving algorithms and software design, data analysis

Technical Skills

Programming Languages	Java, Python, C++, MySQL, R
Programs and Systems	Linux, GitHub, Git, AWS, Gradle, CUDA
Other Skills	Parallel programming, OOP, algorithms

Education

PhD, Computer Science, University of California, Santa Barbara, **GPA: 3.92/4.00** **September 2022 — Present**

Bachelor of Science, Computer Science, California Lutheran University, **GPA: 3.94/4.00** **August 2019 — May 2022**

- Graduated Summa Cum Laude with a minor in math.

Los Angeles Pierce College, **GPA: 3.93/4.00** **February 2016 — June 2019**

- Dean's Honor List Fall 2016-Spring 2019, President's Honors Fall 2018-Spring 2019

Projects and Research

Distributed Cox Implementation, University of California, Santa Barbara **April 2024 — Present**

- Working on a novel implementation of the Cox survival regression, a commonly used algorithm for statistical analysis in healthcare situations, which is difficult to use without centralized data.

Siloed Computation Framework, University of California, Santa Barbara **October 2023 — March 2024**

- Created a proof-of-concept framework in Python to demonstrate computation in circumstances where data cannot be centralized.
- Implemented several common methods within the framework, including standard statistical queries, warm start linear and logistic regression, and K nearest numbers.

Client-Server System Framework

Software Engineering class project, California Lutheran University **August 2020 — December 2020**

Swenson Science Summer Research Fellow, California Lutheran University **May 2021 — July 2021**

Capstone Project, California Lutheran University **January 2022 — May 2022**

- Worked (virtually) in a team of 5 to develop a basic client-server system in Java and MySQL over fall semester of 2020 for the Sofware Engineering course using the software development cycle including research, design, implementation, testing, and deployment.
- Implemented security measures during solo research with the Swenson Summer Research Fellowship, both on the MySQL database itself and the Java-based front end, including RSA and AES encryption (using an appropriate interface in Java), database views, and stored functions and procedures.
- During capstone project, took steps to enable use of the Signal Protocol in places where asymmetric encryption would be used.

Point of Sale Database, California Lutheran University **Spring Semester 2021**

- Designed and programmed a MySQL Point of Sale database for a restaurant which included many tables including menu categories, tax rates, item costs, gratuities, time sheets, discounts, and special order modifications.
- Implemented SQL structures such as foreign keys, triggers, and constraints.
- Created a list of queries to add and retrieve information from the database.

Fellowships and Awards

Swenson Science Summer Research Fellowship, California Lutheran University **May 2021 — July 2021**

Professional Experience

Software Integration Coordinator & Data Organizer **August 2010 — Present**

Safety Coordinator **March 2024 — Present**

Fast Forward Concrete Cutting Van Nuys, CA

- Tracked and scheduled safety classes for laborers in the field, including maintaining records for each laborer and class.

- Requested and ensured that additional operations were deployed on an essential dispatch and scheduling program, including modifications to the program necessary in order to track required safety certifications within the program to make information accessible in the field and on the job.
- Worked in a team of two to create a script for retrieving images and their relevant information from a cloud-based database (using an API whose development was requested for this purpose) and store the files locally according to existing company conventions.

Teaching and Mentoring

Computer Science Department Assistant **August 2021 — May 2022**
California Lutheran University Thousand Oaks, CA

- Helped students debug and troubleshoot programs in Java, C++, Python, and SQL.
- Guided students to resources necessary to schedule courses.
- Coordinated tutoring strategies with other department assistants and helped create study strategies for students.

President of the Computer Science Club **August 2020 — May 2022**
California Lutheran University Thousand Oaks, CA

- Led the club to facilitate projects and informational sessions for computer science students, including virtual talks by industry professionals and presentations on relevant and current topics in the industry.
- Coordinated the implementation of a game console and Tetris clone using Raspberry Pi and C++.

Peer Adviser **August 2020 — December 2020**
California Lutheran University Thousand Oaks, CA

- Connected with incoming students and directed students to the appropriate campus resources.
- Facilitated virtual communication among students during the COVID-19 pandemic.