Lawrence Lim

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Santa Clara, CA

Education

University of California, Santa Barbara — Santa Barbara, CA
PhD student in Computer Science — Class of 2025

University of California, Santa Barbara — Santa Barbara, CA
Bachelor of Science in Computer Science (3.94 GPA) — Class of 2020
College of Engineering Honors

Work Experience

Researcher in Distributed Systems Lab
University of California, Santa Barbara — February 2018 – Current

- Optimized key rotations by using new updatable encryption primitives, resulting in a research paper: QUICKeR: Quicker Updates Involving Continuous Key Rotation (in-submission)
- Developed an augmented reality mobile application for spatial music, culminating in an accepted poster paper at a top HCI conference: A Spatial Music Listening Experience in Augmented Reality (UIST 2021)
- Reduced workload imbalance for distributed system backends by developing a front end cache, leading to a paper: Cache on Track (CoT): Decentralized Elastic Caches for Cloud Environments (EDBT 2021)
- Improved database query efficiency by using machine learning algorithms to predict queries
- Nominated for 2019 CRA Award for Outstanding Undergraduate Researchers

Software Engineer Intern, Oracle
Redwood City — June 2021 – September 2021, June 2022 - September 2022

- Conducted research on optimizing for net benefit of query plan native compilation by modeling native compilation benefit and clustering to group similar query plans, leading to a research paper submission

Teaching Assistant, University of California Santa Barbara
Santa Barbara, CA — September 2020 - June 2021

- Taught discussion lectures on topics in Cryptography, Compilers, and Automata Theory
- Created and graded homework assignments

Software Engineer Intern, Toyon Research Corporation
Goleta, CA — July 2019 – September 2020

- Improved accuracy of object detection in applications of cutting edge models like RetinaNet and Faster R-CNN by tuning hyperparameters and implementing image transformations
- Authored monthly progress reports by analyzing results for government contracts
- Created image classification model using ResNet to determine benefits of additional LIDAR data

Software Engineer Intern, Calix Inc.
Goleta, CA — June 2017 – July 2018

- Developed automation framework on host computer instructing DUT to run self-diagnostics
- Debugged hardware abstraction layer on embedded systems Linux OS

Research Interests

- Data Management: Transactional Processing, Distributed Systems, Relational Databases
- Privacy: Homomorphic Encryption, Secure Multi-party Computation, Differential Privacy
- Human-Computer Interaction: Augmented Reality, Virtual Reality

Projects on Github: lawrencekhlim

- **DJ Application** (2018) - developed a web application that allows users to upload and play a track, visualize the sound waves, mix between tracks and add different sound effects
- **NBA Referees Hack** (**@ SBHacks 2018**) - determined referee bias using regression on NBA datasets
- **Air Quality Index** (2017) - scraped data and charted air quality with R during Santa Barbara fires

Awards

Data Science Award at HackUCI Hackathon — UCI
- Simulated Monopoly with Python and determined best strategies — January 13th - 15th 2017

Clubs

Vice President, Association for Computing Machinery (ACM Club) — UCSB
- Organized and led meetings discussing topics in computer science — January 2018 - June 2020