KENNETH LAMAR

Software Engineer - Google

CONTACT

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SKILLS

- **Concurrent Data Structures** — 7+ yrs
- **High Performance Computing** — 6+ yrs
- **Program Analysis** — 1+ yrs
- **C++** — 8+ yrs
- **Python** — 7+ yrs
- **Java** — 3+ yrs
- **JavaScript** — 2+ yrs
- **Systems Software** — 1+ yrs
- **C#** — 1+ yrs
- **SQL** — 1+ yrs

WORK EXPERIENCE

Software Engineer - GPU System Software — **2025 - Present**
Google - Sunnyvale, CA (USA)
Develop Baseboard Management Controller (BMC) software. Maintain reliability monitoring services, kernel rollouts, firmware and driver upgrades, cooling, and power management for emerging GPU platforms.
Tools: C, C++, Python, Linux kernel development

Post Doctoral Scholar — **2024 - 2025**
University of Central Florida - Orlando, FL (USA)
Finalized graduate research projects and trained new graduate and undergraduate students. Worked on HPC scheduling, concurrent data structures, GPU program optimization, CPU profiling, etc.

Computing Graduate Student Intern — **Summer 2023**
Lawrence Livermore National Laboratory - Livermore, CA (USA)
Evaluated code quality metrics to improve maintainability. Created ROSE LCOM Tools to measure class cohesion and a tool to measure code churn.
Tools: C++, Python, Ada, ROSE compiler, gitchurn, gprof, static analysis

Applications Developer Internship — **2017**
MVP Sports Clubs - Orlando, FL (USA)
Developed customer touchpoint system, guest check-in alert, customer risk factor identification, iOS and Android apps, and API integrations.
Tools: ASP.NET, SQL, C#, JavaScript, Java, Swift

EDUCATION

Doctor of Philosophy - Computer Science — **2018 - 2024**
University of Central Florida - Orlando, FL (USA)
Advisor: Dr. Damian Dechev
Dissertation Topic: Concurrent data structures & HPC scheduling

Master of Science - Computer Science — **2018 - 2023**
University of Central Florida - Orlando, FL (USA)
Masters along the way

Bachelor of Science - Computer Science — **2014 - 2017**
University of Central Florida - Orlando, FL (USA)
Minor in Mathematics

Associate of Arts — **2011 - 2014**
Daytona State College - Daytona Beach, FL (USA)

PUBLICATIONS

Predicting HPC Job Run time with Realistic Data Using Application Input Parameters — HPEC 2025
29th Annual IEEE High Performance Extreme Computing, September 2025

ROSE LCOM Tools — FSE 2025
ACM International Conference on the Foundations of Software Engineering, June 2025

Evaluating HPC Job Run Time Predictions Using Application Input Parameters — DEBS 2023
17th ACM International Conference on Distributed and Event-Based Systems, June 2023

Metrics for Packing Efficiency and Fairness of HPC Cluster Batch Job Scheduling — SBAC-PAD 2022
IEEE 34th International Symposium on Computer Architecture and High Performance Computing, November 2022
Secondary author

Backfilling HPC Jobs with a Multimodal-Aware Predictor — HPCMASPA 2021
Workshop on Monitoring and Analysis for HPC Systems Plus Applications, September 2021
Co-located with CLUSTER

PMap: A Non-volatile Lock-free Hash Map with Open Addressing — NVMSA 2021
2021 IEEE 10th Non-Volatile Memory Systems and Applications Symposium, August 2021

Lock-free transactional vector — PMAM 2020
11th International Workshop on Programming Models and Applications for Multicores and Manycores, February 2020
Co-located with PPoPP

An Efficient Latch-free Database Index Based on Multi-dimensional Lists — IPCCC 2018
37th IEEE International Performance Computing and Communications Conference, November 2018

PRESENTATIONS

Tilt-Shift Rendering Using a Thin Lens Model — Apr 2022
Student Presentation - UCF - Orlando, FL (USA)
Provided an explanation of and developed an interactive web demo fully simulating a tilt-shift lens using real-time ray tracing.
Tools: TWGL, D3.js, reveal.js, WebGL shaders

A Persistent Hash Map for Graph Processing Workloads and a Methodology for Persistent Transactional Data Structures — Sep 2021
CppCon 2021 - Aurora, CO (USA)
Presented my work on PMap, a persistent hash map design.

RacerD: Compositional Static Race Detection **Apr 2020**
Student Presentation - UCF - Orlando, FL (USA)
Presented on RacerD, a static analysis tool to detect data races, designed by Facebook. Ran on four popular Android apps (Telegram, VLC, Firefox Focus, Open Camera) and 9 toy programs and identified several potential and real data races.
Tools: RacerD

PROJECTS

Feature Creeps **2024-Present**
Tools: TypeScript, WebRTC, WebLLM, OpenAI API, Kokoro.js, VITS-web, Astro, Static site
Developed the backend for a Jackbox Party Pack-style party game where multiplayer communication, LLM, and TTS systems all run server-free

ConVul Reimplementation **Apr 2021**
Tools: Intel PIN, C++, ConVul
Recreated ConVul, a concurrency vulnerability detector using dynamic analysis, as a student project, since the original design did not have source code available.

24-Player Mario Kart Split Screen Multiplayer **2017 - 2026**
Tools: WinAPI, libusb, ViGEM, Batch scripting, Dolphin, VMWare, dnsmasq
Multi-instance workflow and tooling for massively multiplayer splitscreen. Wrote a custom controller driver, a window tiling tool, and documentation for setup and usage. Supports many other games too.

TEACHING

Graduate Teaching Assistant **Spring 2021**
COP 3402 - Systems Software - UCF
Instructor: Euripides Montagne

Graduate Teaching Assistant **Spring 2020**
COP 4520 - Multicore Programming - UCF
Instructor: Damian Dechev

Graduate Teaching Assistant **Fall 2019**
CAP 4102 - Web Design and User Experience - UCF
Instructor: Reza Aria

Graduate Teaching Assistant **Spring 2019**
CIS 3360 - Security in Computing - UCF
Instructor: Joshua Lazar

Graduate Teaching Assistant **Fall 2018**
CIS 3360 - Security in Computing - UCF
Instructor: Michael McAlpin

AWARDS

- 2018 UCF College of Graduate Studies Presentation Fellowship
- President's List - Daytona State College - 7 times between 2011-2015