KENNETH LAMAR

Post Doctoral Scholar - Computer Science

CONTACT

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KennethMLamar.com

KennethLamar

EDUCATION

Doctor of Philosophy - Computer Science — 2018 - 2024
University of Central Florida - Orlando, FL (USA)
Advisor: Dr. Damian Dechev
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)

SKILLS

Concurrent Data Structures	5+ yrs
High Performance Computing	4+ yrs
Program Analysis	1+ yrs
C++	6+ yrs
Python	5+ yrs
Java	3+ yrs
JavaScript	2+ yrs
C#	1+ yrs
SQL	1+ yrs

WORK EXPERIENCE

Post Doctoral Scholar — 2024 - Present
University of Central Florida - Orlando, FL (USA)
Continuing graduate research projects and training new graduate students

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

PUBLICATIONS

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 and 9 toy programs and identified several potential and real data races.
Tools: RacerD

PROJECTS

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 - 2025**
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.

UCF Garage Tracker **2020**
Tools: Node.JS, Oracle Cloud
Capture and log UCF parking data over time.

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
- General Research Award - Daytona State College Awards Convocation 2011 - First place award, general research paper