Krishna Dhulipala

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OBJECTIVE

Seeking an internship for the Summer of 2025 where I can apply and improve my knowledge of computer systems, architecture, and algorithms.

EDUCATION

University of California, Santa Barbara, Santa Barbara, CA
BS in Computer Science at the UCSB College of Engineering. Graduated with research-track Distinction in Major.
September 2020 - June 2024

MS in Computer Science (systems focus) at the UCSB College of Engineering.
September 2024 - Present

TECHNICAL SKILLS

Languages: C++, C, Nvidia CUDA, Python, Go, PyRTL, RISC-V Assembly, LaTeX
General: Systems Engineering, GPU Programming, Architecture, Algorithms/Data Structures, Scalable Internet Services, Compilers, Storage, Performance Analysis

EXPERIENCE

Nebulon Inc., Fremont, CA
Software Development Intern in NebOS Group.
In my second internship, I (1) conducted a comparative study of Cuckoo filters and Bloom filters to optimize read performance on key-value stores; and (2) developed Golang unit tests for data structures and techniques utilized in key-value stores, such as B-Plus Trees, Skip Lists, Log-Structured Merge (LSM) Trees, and LRU Cache Eviction.
(40 hrs / week) June, 2022 - September, 2022

In my first internship, I (1) worked on new compression options for boot images when downloading them to volumes; (2) made uploading and downloading boot images resilient to failures; and (3) enhanced NebOS to extract host OS type and version information from boot images and update the cloud status for display to customers.
(40 hrs / week) December, 2020 - September, 2021

RESEARCH

Research on Using Graphics Processing Units to Parallel-Process HDLs
I am currently working with Professor Jonathan Balkind to accelerate the simulation of Verilog code by using GPUs in conjunction with `Yosys`*, a tool for RTL synthesis. My work is primarily concerned with GPU programming and parallelizing lookup-table-level simulation using kernels written in Nvidia CUDA.*
September 2023 - Present

Research on Differentially Private Synthetic Data Manufacture
Helped Professor Trinabh Gupta benchmark the Multiplicative Weights and Exponential Mechanism (MWEM) algorithm introduced by Hardt et al. (2010) as well as versions of the NIST-MST algorithm from Mckenna et al. (2021).
November 2021 - June 2022

AWARDS

Dean's Honours, College of Engineering

Distinction in the Major (Research Track), College of Engineering

National Merit Commendation
Letter of Commendation awarded for performance on the PSAT/NMSQT.