

Akhilan N. Ganesh

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Summary

Hello! I am a skilled software engineer with a passion for back-end application and cloud development. I have demonstrated expertise in implementing diverse software solutions and I am always looking to explore and expand my knowledge base. I can attest to my proficiency in a wide array of web and native programming languages, tools and technologies, with a proven ability to collaborate in teams and deliver high-quality projects.

Education

Bachelor's in Computer Science, **University of California - San Diego**, 3.89 GPA

June 2023

Project Experience

Snek Compiler (Rust)

[March 2023 - June 2023]

- Architected a compiler for the dynamically-typed CSE 131 Snek language
- Implemented functions, safe-for-space tail calls, heap allocation, LISP-2 MC garbage collection

Yodie ISA and Microprocessor (SystemVerilog, Assembly) *[January 2023 - March 2023]*

- Led a team to design an ISA/microprocessor to handle error detection/correction & pattern match
- Created a microprocessor in SystemVerilog and an assembler in Python
- Optimized on instruction set & number of assembly instructions for all functionalities/programs

Raytracer (C++)

[January 2022 - March 2022]

- Engineered a custom algorithm with ray casting, preliminary shading & recursive ray tracing
- Introduced an acceleration structure that improved performance logarithmically against triangles

Bujo: Web-based Bullet Journal (JS)

[April 2021 - June 2021]

- Collaborated in a 8-person team to build a bullet journal web application applying industry agile development practices like Scrum
 - Deployed a Progressive-Web-App experience by using IndexedDB and JS Web Workers
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Skills

Programming Languages:

Java, C, C++, C#, C-CUDA, Golang,
Python, Rust, SQL, SystemVerilog,
Assembly, HTML, CSS, JavaScript

Tools and Technologies:

Git/Github, Node.js, Express.js, React, Next.js,
TailwindCSS, SQLite, MySQL, MongoDB,
Pytorch, Quartus, Questa/ModelSim, Linux

Undergraduate Courses of Interest

- Software Engineering (CSE 110)
- Principles of Computer Operating Systems (CSE 120)
- Computer Graphics (CSE 167)
- Computer Security (CSE 127)
- Machine Learning & Deep Learning (CSE 151A, CSE 151B)
- Database System Implementation (CSE 132C)
- Computer and Communication Networks (CSE 222A)
- Compiler Construction (CSE 131)

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Github: <https://github.com/akhilanganesh>