YASH ANAND

Software Engineer

A passion for web applications, programming languages, and computer systems, with a track record of delivering high-quality solutions for both enterprise and product-based startups. Master's from a top CS school, with experience that spans researching WebAssembly, as well as designing and implementing kernels and optimizing compilers.

HONORS -

Director's Scholarship Carnegie Mellon Univ. (2022)

Special Recognition Award Shell (2022)

VP CIO Award Shell (2021)

Service Recognition Award Shell (2021)

EDUCATION

Graduating in Dec 2023

Master of Software Engineering Carnegie Mellon University, School of CS CGPA: 3.9/4 • Pittsburgh, PA, U.S.A

Graduated in May 2019

Bachelor of Technology in Information Technology Vellore Institute of Technology CGPA: 8.5/10 • Vellore, India

Coursework (CMU)

Operating System Design and Implementation, Compiler Design, Software Architecture, Web Applications, Advanced Formal Methods, Intro to Computer Systems

Experience (CMU)

Teaching Assistant for Web Applications Teaching Assistant for Software Architecture

EXPERIENCE

Jul 2019 - Jul 2022

Software Engineer Shell

Bangalore, India (On-site)

Sep 2018 - Jul 2019

Lead Software Developer

Vellore, India (Part-time, Hybrid)

Feb 2017 - Feb 2019

Software Development Intern AppSecure

Vellore, India (Part-time, Remote)

- Optimized load time of orq-wide skills and resource management applications by 70%.
- Pioneered a CI/CD initiative for the platform, and implemented mission-critical software for managing projects, resources, and security incidents across the organization.
- Winner of org-wide VP CIO Award in May 2021, and Service Recognition Awards.
- Solely developed the desktop user interface for a wearable gesture controller called Kai.
- Lead software team for a product that raised over \$100k via crowdfunding on Indiegogo.
- While simultaneously pursuing an undergraduate degree, built the entire web eco-system including UI component libraries, product website, auth intermediary, and many more.
- Single-handedly developed and designed multiple security-based SaaS apps during the start-up's foundational years while simultaneously pursuing an undergraduate degree.
- Pivotal work that contributed to start-up's listing in Forbes 30 under 30 Asia in 2017.
- Built a web app (rakshak.io) that was acclaimed at the RISE Conference in 2018.

PROJECTS

Carnegie Mellon • 2023

Pebbles Kernel

C, x86 Assembly

Carnegie Mellon • 2023

WASM Dynamic Analysis WebAssembly, Rust, Virgil

Carnegie Mellon • 2023

C Compiler

OCaml, x86, WebAssembly

Carnegie Mellon • 2023

Dynamic Memory Allocator C,

Linux API

Carnegie Mellon • 2022

Chesster

JavaScript, Django

- Designed and implemented an x86 kernel with console, keyboard, and timer drivers along with a robust user thread library of mutexes, condition variables, semaphores, RW locks.
- Support for multi-threading, processes, preemptive multitasking, virtual memory, etc.
- Designed and constructed a memory-safe optimizing compiler for a subset of the C language (called C0) achieving runtime performance on par with the industry-standard GCC (-O1).
- Features included strings, function pointers, arrays, structs, and a WebAssembly target.
- Implemented a high-performance dynamic memory allocator surpassing the efficiency of C's standard malloc package for a diverse set of program traces.
- Achieved rank 1 performance & utilization in 15213 summer '23 class of 150 students.
- Built a fully-functional online chess multiplayer game that featured in-game spectators, live chat, and a global live feed of top-spectated games.
- Uses vanilla JavaScript and WebSockets for all it's complex asynchronous interactions.
- Solely built a cross-platform desktop app for a wearable gesture controller called Kai.
- Product (Kai) eventually raised over \$100k via crowdfunding on Indiegogo.
- Built critical modules to deliver software patches to devices's entire software eco-system.

Tools/Technologies Top Skills Languages **Functional Programming** Web Applications C / C++ JavaScript x86 Assembly Vim React Systems Programming Dynamic Analysis WebAssembly Angular **OCaml** Python Diango