

Sai Kaushik Sudhakaran

Associate Software Engineer



Website



Github



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EXPERIENCE

IIT DELHI | SENIOR RESEARCH FELLOW UNDER DR. SMRUTI RANJAN SARANGI

October 2024 - present | Delhi, India

- Working on TEJAS Architectural Simulator to add an ultra-fast simulation theoretically achieving MIPS, inspired from Sniper Architectural Simulator.

Technology Stack: Java, Python, C++

KLA - TENCOR SOFTWARE | ASSOCIATE SOFTWARE ENGINEER

July 2023 - August 2024 | Chennai, India

- Acquired knowledge of the semiconductor domain and its production cycle.
- Resolved bugs and feature requests in a 3-tier application.
- Executed performance and stress tests on Oracle DB CRUD using C++ libraries (Pro*C, Rogue Wave and OCCi).
- Designed and implemented UI elements for the application using C# WPF.

Technology Stack: C++, C#, WPF, Oracle DB, Git, Azure, Docker, RHEL Servers

KLA - TENCOR SOFTWARE | SOFTWARE INTERN

January 2023 - June 2023 | May 2022 - October 2022 | Chennai, India

- Worked on a desktop application that collects logs from the system based on user-specified inputs.
- Redesigning a web application that generates the throughput report from user-uploaded logs.
- Developed a web application that reduces the creation and deployment of VMs on VMWare servers by 12x from 2 hours to 10 minutes.

Technology Stack: Python, React, Java, Spring, .NET, Angular, VMWare vSphere

PROJECTS

LORENZ ATTRACTOR PARALLELIZATION ALGORITHM

- Visualization of Lorenz Attractor using the Lorenz Equations. Using OpenMP, MPI, and CUDA to improve the performance in multi-core CPUs, cluster computers and GPUs respectively.
- Achieved a 12% gain in performance with the OpenMP implementation of the same

Technology Stack: C, OpenGL, OpenMP, MPI, CUDA

VLIW SIMULATOR

- Simulation of a 32-bit 5-stage pipelined VLIW processor with an input of an assembly file, and monitor the updating processor register file.
- Attained 100% accurate outputs with the generated processor.

Technology Stack: Python3, Verilog

KEY DISTRIBUTION CENTRE (KERBEROS)

- A multi-threaded GUI application for secure server-client communication by issuing multiple encrypted tickets.
- The 3 servers created include a chat application, a multiplayer quiz platform, and a file transfer application.

Technology Stack: Python3, PyQt5

SKILLS

PROGRAMMING

Proficient:

C • C++ • Python • C#

Experienced:

Java • JavaScript • SQL • LaTeX

Familiar:

Kotlin • Powershell Script

LIBRARIES/Frameworks

PyTorch • TensorFlow
Django • Spring
.NET Core & Framework • WPF
React • Angular

TOOLS/Platforms

Git • Microsoft Azure
Visual Studio • VS Code
Docker • Kubernetes
gRPC • Postman

EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

B. TECH. AND M. TECH. IN
COMPUTER SCIENCE AND
ENGINEERING WITH SPECIALIZATION
IN SYSTEM DESIGN
July 2018 - May 2023 | Chennai, India
CGPA: 8.78 / 10

ACHIEVEMENTS

SECURED 93.5 PERCENTILE IN GATE
2021 (CS PAPER)
2021
QUARTER FINALIST IN SWADESHI
MICROPROCESSOR CHALLENGE
2020