

Sairudra More

Systems Software Engineer | LLVM Project Member | Flang/OpenMP Compiler Infrastructure | C++

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SUMMARY

Software engineer at HPE working on Cray/Flang compiler infrastructure, with upstream LLVM contributions across OpenMP lowering, HLFIR/Fortran semantics, compiler/runtime correctness, diagnostics, and regression testing. Built AI-assisted developer-productivity systems over ~27K LLVM/CCE PRs and ~177K review comments.

SKILLS

Languages: C++, C, Python, Java, SQL, Fortran

Compiler / Systems: LLVM, Flang, MLIR, OpenMP, HLFIR, IR lowering, semantic analysis, compiler runtimes, systems programming, HPC

Tools: Linux, Git/GitHub, CMake, Ninja, LIT, FileCheck, GDB, GitHub Actions

Infra / Data: Dask, SLURM, SQLite, libclang, GraphCodeBERT, ChromaDB, Python data tooling

EXPERIENCE

Hewlett Packard Enterprise (HPE) - Systems Software Engineer I, Cray/Flang Compiler

Feb 2025 - Present

- **Delivered 20+ LLVM/Flang/OpenMP patches and PRs** across upstream and HPE compiler work, including 14 merged upstream LLVM PRs and active taskgroup/taskloop reduction work in review.
- **Fixed Flang correctness issues** in HLFIR lowering, scalar-to-array assignment at -O0, CHARACTER MIN/MAX lowering, OPTIONAL intrinsic handling, BIND(C) diagnostics, and deep type-extension traversal.
- **Improved OpenMP lowering and offload behavior** by fixing declare target handling, taskloop lowering paths, firstprivate/defaultmap pointer mapping, and LASTPRIVATE pointer validation.
- **Hardened Flang/Flang-RT platform behavior** through W^X-safe trampoline-pool work, macOS mmap fixes, GNU_STACK/RWE validation, and REAL(10)/COMPLEX(10) runtime type-info corrections.
- **Built a PR Reviewer Recommender** over ~27K LLVM/CCE PRs by combining code/text similarity, contributor activity decay, PageRank-style signals, and feedback weighting with GitHub Actions and on-prem HPC workflows.
- **Built a Review Comment/Suggestion Recommender** over ~177K comments using GraphCodeBERT retrieval, libclang AST signals, ChromaDB, and classifier threshold tuning to surface reusable review feedback faster.

Cuvasol Technologies Private Limited - Trainee Software Developer

Aug 2023 - Sep 2023

- Reduced manual API-testing effort by 30% by implementing a PHP/API video-recording workflow and Postman-based validation flow for a production-style web application.

SELECTED OPEN SOURCE / LLVM WORK

- **LLVM Project Member** with **20+ public upstream contributions** across Flang, OpenMP, HLFIR, Flang-RT, Fortran semantics, compiler diagnostics, runtime correctness, and regression testing.
- Selected upstream LLVM work includes runtime trampoline-pool support, OPTIONAL DIM segfault fixes, CHARACTER MIN/MAX HLFIR lowering, OpenMP declare target fixes, REAL(10)/COMPLEX(10) runtime type-info correction, and scalar-to-array HLFIR assignment at -O0.
- Experienced in upstream LLVM workflows including issue-to-PR ownership, large-codebase debugging, reviewer-driven iteration, stacked PRs, LIT/FileCheck validation, MLIR/Flang/Flang-RT testing, and incremental public code review.

EDUCATION

Vellore Institute of Technology – Chennai (VIT), India

2021 – 2025

- B. Tech CSE Core | CGPA: **8.90**

Sri Chaitanya PU College – Bengaluru, India

2019 – 2021

- CBSE (Class XII) | Aggregate: **91%**

St. Thomas Public School – Bengaluru, India

2018 – 2019

- ICSE (Class X) | Aggregate: **93.6%**

PUBLICATIONS

- IEEE INCIP 2025: Enhancing Data Compression Techniques for Optimization - BWT, LZW, RLE, and Huffman Coding. DOI: 10.1109/INCIP64058.2025.11020095.
- ICRAMDS 2024, NIT Bhopal: Enhancing Data Compression Techniques for Optimization - BWT/LZW/RLE with Huffman Coding for compression efficiency; Paper ID: MDS-24-008.
- IEEE ICACRS 2023: Enhancing Data Compression: A Dynamic Programming Approach with Huffman Coding and Burrows-Wheeler Transform - dynamic-programming optimized image compression. DOI: 10.1109/ICACRS58579.2023.10404627.

CERTIFICATIONS & LEADERSHIP

Microsoft Learn Student Ambassador (Beta) | HPE Career Preview Program 2025 Mentor | Azure AI Engineer Associate | Azure Administrator Associate | Azure Fundamentals | Azure AI Fundamentals | Azure Data Fundamentals | AWS Cloud Practitioner | HackOverflow finalist | 3x NPTEL Gold / 100% scores