Tejas Vipin

SRM Institute of Science and Technology • Kattankulathur • Chennai, India

Contact

tejasvipin76@gmail.com
https://www.linkedin.com/in/tejas-vipin-b8788b24b/
https://github.com/meltq

Skills

C\C++, Python, Rust, Linux, Device Drivers, Compilers, LLVM, Embedded Systems, Machine Learning, Operating Systems, LLM, AWS, Transformers, Git

Experience

Intel Corporation Feb. 2025 - Apr. 2025

Student Trainee

- Working on Visual Search using VLM under the Intel Unnati program.
- Research various VLM capabilities to generate image and text embeddings for large datasets.
- Collaborating with mentors and team members to create a Gradio workflow integrating FAISS to index search results.

Directorate of Student Affairs, SRMIST Nov. 2022 - Aug. 2023

Backend Developer

- The Directorate of Student Affairs organizes a national level cultural fest called Milan.
- Worked on the website of Milan 2023 along with the DSA tech team.
- Created a backend on AWS for routing and interacting with a MongoDB instance, capable of handling thousands of concurrent requests and integrated it with the frontend.

Linux Kernel Jun. 2024 - Present

Contributor to DRM subsystem

- The Direct Rendering Manager is a subsystem in the kernel that contains the code and drivers for managing graphics related hardware.
- Optimized several display panels that use MIPI DSI by reducing generated code size and improving the internal API.

LLVM Jan. 2025 - Present

Contributor to MLIR, Libc

- LLVM is a modular, open-source compiler framework designed to optimize and generate intermediate and machine-level code for a wide range of programming languages and architectures.
- Optimized MLIR generation for operations involving 0 dimensional vectors. Optimized and worked on unit test architecture involving the same.
- Implemented higher order math functions like asinh and hypot for Float16 in libc and wrote exhaustive tests for them.
- Profiled different function implementations and identified performance bottlenecks and removed them.

Projects

AI Mathematical Olympiad Progress Prize 2 Competition

- Participated in a Kaggle competition involving create algorithms and models that can solve olympiad level math problems written in LaTeX format.
- Used cutting edge finetuning techniques to boost the performance of SLMs using CoT and TIR to be competitive with state of the art LLMs with 10x the number of parameters.
- Deployed state of the art LMs using vLLM and optimized sampling parameters to optimize GPU usage and speed up inference.

Jane Street Real Time Market Data Forecasting Competition

- Participated in a Kaggle competition involving prediction of the performance of high frequency trading algorithms used by Jane Street for Quantitative Trading.
- Came up with several different strategies of data processing and prediction to increase accuracy and speed.

Crime Detection and Classification using Deep Learning

- Detected and classified different classes of crime using RNNs and Transformers.
- Came up with several different novel strategies of analyzing video data to increase inference speed and accuracy.
- Finalized and contrasted different competing cutting edge models to come up with a final model that outperforms all current existing models for this task.

Education

SRM Institute of Science and Technology Kattankulathur, India

B Tech Computer Science and Engineering with Specialization in Cloud Computing *2022 - 2026*