Lupam Kumar Saha

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Interest Areas

Compiler design, Device drivers, System Design

Education

Indian Institute Of Information Technology Dharwad **Nov 2022 – Current (6th Sem)**
Bachelor of Technology in Computer Science *GPA - 9.56*

Vikash Residential School Bargarh **2021**
CBSE XII *Percentage - 94.8*

Relevant Coursework

Data Structures | Software Engineering | Design and Algorithms Analysis | Object-Oriented Programming | Database Management Systems | Operating Systems | Microprocessors & Microcontrollers | Computer Architecture | Computer Networks | Parallel Computing | Theory of Computation | Advanced Algorithms | Machine Learning | Deep Learning for Computer Vision | Computer Graphics

Projects

Tarot | **Programming Language Implementation**

- Developed a simple language implementation written in C++, ideal for educational purposes & experimentation
- Utilizes LLVM for code generation and optimization also Potentially supports just-in-time (JIT) compilation through LLVM
- Tarot

Sylvan | **x86-64 Linux Debugger**

- A minimalist debugger made for x86-64 Linux systems.
- The debugger is built using the ptrace api and provides key features such as memory and register inspection, software breakpoints, and process control, among other things.
- sylvan

Accord | **Chat Application**

- Collaboratively developed a chat application using Next.js, React, and TypeScript.
- Enabled real-time messaging and user interactions with responsive UI components.
- Accord

Vehicle Insurance Management System

- Built an insurance management system in a team using Next.js, React, TypeScript, and MySQL.
- Designed and implemented database schemas to manage vehicle insurance registration, records, and claim processing.
- Vehicle Insurance Management System

CPU Design for SimpleRisc Instruction Set

- Designed a CPU based on the SimpleRisc instruction set using Logisim & created an assembler for executing instructions.
- CPU Design for SimpleRisc

Experience

IIIT Dharwad Official Website Contribution

- Contributed to the development and ongoing maintenance of the official IIIT Dharwad website, enhancing user experience and functionality.
- Institute Website: IIIT Dharwad

Technical Skills

Systems & Programming: C/C++, Python, Java, ARM Assembly, AVR Assembly
Web Development: React, Next.js, TypeScript, JavaScript, HTML/CSS
Databases, Tools & others: MySQL, Git, Linux, OpenMP, OpenGL, MPI