

SATVIK SHARMA

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EDUCATION

Master of Science - Computer Science and Engineering

Politecnico di Milano (Milan, Italy)

September 2024 - June 2026 (Expected)

Bachelor of Technology - Information and Technology

Maharaja Agrasen Institute of Technology (New Delhi, India)

December 2020 - July 2024 GPA: 9.29/10

EXPERIENCE

Software Engineering Intern

The DataFlow Group

June, 2023 - July, 2024 Noida, India

- Designed a Currency Exchange Service API that replaced legacy web scraping from 10+ central banks' websites, improving data accuracy and integration speed by 30%.
- Automated multilingual data extraction from user-submitted documents, reducing manual data processing time by 50%.
- Contributed to the development of a portal for primary source verification, replacing a legacy system used by millions of users worldwide, implementing the latest best practices to improve data processing speed by 40% and reduce verification time by 20%.
- Developed a payment gateway system for a portal created for the Ministry of Higher Education, Research, and Innovation of Oman, ensuring secure and efficient transaction handling.

COURSES

- Foundation of Operations Research
- Databases
- Advanced Computer Architectures
- Computing Infrastructures
- Computer Security
- Advanced Algorithms and Parallel Programming
- Distributed Software Development
- Formal Method for Real-Time and Concurrent Systems
- Data Structures and Algorithms

SKILLS

Languages:

C/C++, JavaScript, TypeScript, Java, Rust, Python

Additional-skills:

AWS, Google GCP, React, Angular, Docker, git, PostgreSQL, CI/CD

PROJECTS

Genesis-OS

May, 2024

Delhi, India

- Designed a minimalist Rust-based kernel, incorporating essential features like kernel booting and VGA text output, enabling basic operations on bare metal systems.
- Implemented paging and dynamic memory management, integrating heap allocation with a custom allocator, resulting in a 30% optimization in memory usage.
- Developed reliable interrupt handling mechanisms by setting up the interrupt descriptor table, managing CPU exceptions, and handling hardware interrupts for keyboard inputs and periodic timer events.

RAM Dump Collector

October, 2023

Delhi, India

- Designed a cross-platform memory allocation snapshot tool in C++ compatible with both Windows and Linux, leveraging Windows API functions such as CreateFile and VirtualQuery to efficiently capture a snapshot of a running process.
- Developed a robust C++ tool using the Windows API to parse and present the generated memory dump, simplifying the data for human-readable analysis.
- Implemented optimized memory management techniques to enhance the performance of both tools, reducing overhead and ensuring smooth operation even for large-scale processes.

Real-Time Volume Renderer

February, 2023

Delhi, India

- Developed a real-time volume renderer using raymarching resulting in a 50% reduction in rendering time.
- Integrated Blinn-Phong shading for enhanced realism and visual appeal with less than 5% drop in frame rate.
- Demonstrated expertise in advanced rendering techniques and algorithm optimization and successfully combined visualization and shading within a single-pass rendering framework.

ACHIEVEMENTS

- Smart India Hackathon** Project won 4th Prize (out of 20 teams) and for Presentation got 2nd Prize
- 2nd-Runner Up** in **G20 MAIT Hackathon** (4 Rounds - 100+ participants).