



## TECHNICAL EXPERIENCE

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### Projects

- **Linux trace file system.** *C, Kernel Programming* *Team of 2*  
Developed a stackable Linux file system that traces and records all filesystem operations, with compact binary-format recording and replay support.
- **Parallel DP algorithms on GPUs with external memory.** *C++, CUDA* *Team of 2*  
Implemented parallel cache-efficient divide-and-conquer dynamic programming algorithms using external memory and GPUs and obtained up to **40x faster** runtimes over traditional CPU versions. The external memory component also allows solving problems of very large size that won't fit in RAM.
- **Per-process system call vectors.** *C, Kernel Programming* *Team of 4*  
Added support in Linux for per-process loadable system call vectors (overrides). Also created a new clone system call to inherit parent process's vectors.
- **Xmergesort system call.** *C, Kernel Programming* *Individual project*  
Created a new Linux system call that merge-sorts a given set of files. Reading is done in an efficient manner and features like case-insensitive sorting and ignoring duplicate entries are also provided.
- **Student Feedback Summarizer.** *Python* *Team of 3*  
Developed an application that summarizes student course feedback responses using an unsupervised learning approach based on Integer Linear Programming and Singular Value Decomposition methods.
- **Human Motion Detection and Identification in Videos.** *MATLAB* *Team of 4*  
Built a system that analyses a video stream and identifies and tracks human beings using Adaptive Background Modeling, a Histogram of Oriented Gradients approach and a Support Vector Machine.
- **CHAOS - Cognitive Hand in Automobile Orchestrating Systems.** *C, 8051 MCU* *Team of 3*  
Developed both hardware and software components of a road traffic controller that dynamically allocates signal times based on vehicular load using a self-developed time-scheduling algorithm.

### AWARDS

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- **Appreciation Award:** Received at D.E.Shaw & Co. for exemplary turnaround time and performance.
- **Best Project, CS Projects:** CHAOS was given the Best Project award at INFOREA, a national-level technical symposium.
- **Central Government Scholarship, India:** Obtained for the entirety of the undergraduate degree.

### ADDITIONAL EXPERIENCE

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- **Side projects:** Cows-And-Bulls word game (Python), CGPA Calculator (Android app).
- **Mentored** two people at D. E. Shaw & Co.
- Got **97.27 percentile** out of 200,000 candidates in CAT, one of India's toughest quantitative exams.
- **External Coursework:** Embedded systems.

### OTHER INFO

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- **Proficient Languages:** English, Tamil, Hindi.
- **Current Visa Status:** F1 Student Visa.