

Objective I am interested in a **summer intern position** in the area of distributed systems and networking related to research and development.

Education

PhD in Computer Science (Fall'06- on going)
(Advisor: Prof. Zhi-Li Zhang)
CGPA: 3.97/4.00
University of Minnesota – twin cities

MS in Computer Science
2006-08 (expected Fall'08)
CGPA: 3.97/4.00
University of Minnesota – twin cities

B.Tech in Computer Science and Engineering (2002-06)
CGPA: 8.7/10.0
Indian Institute of Technology, Roorkee, India

Intern Experience

IBM Extreme Blue Speed Internship at ISL Pune (India), May 2005 – July 2005

Technical Skills

Platforms: Solaris, Linux, Windows

Languages: C, C++, Java, Python, Assembly Language for MIPS and 80x86 architectures

Other: LaTeX, R, MATLAB, OmNet++, OPNET, Repast,

Ongoing Research

Understanding Failure Characteristics in Large Scale Systems:

This research aims at identifying failure patterns in a distributive system, and as well as parameters that are a good indicator of future failure. It will help in creating better monitoring and diagnosing systems for large scale computer networks.

Project web-page: <http://failsafe.cs.umn.edu>

Publication:

- *“Co-design of Monitoring and Failure Analysis System of Distributed large-Scale System”* Abhishek Chandra, Rohini Prinja, **Sourabh Jain**, Zhi-Li Zhang at ACM HotMetrics'08 co-located with ACM Sigmetrics'08.
- *“Toward Automated Failure Analysis for Large-Scale Systems”* **Sourabh Jain**, Abhishek Chandra, Zhi-Li Zhang. Under review at SysML'08 co-located with OSDI'08.
- *“Failure Classification and Inference in Large-Scale Systems: A Systematic Study of Failures in PlanetLab”* **Sourabh Jain**, Rohini Prinja, Abhishek Chandra, Zhi-Li Zhang at University of Minnesota - Computer Science and Engineering Technical Report 08-014 published online on : 4/24/2008

Virtual ID based routing:

In this work I am designing a new paradigm in building id-based routing by inserting a self-organizing virtual id layer that reflects the underlying network topology between the node-id space and the network.

Publication:

- *“Virtual ID Routing”* Guor-Huor Lu, **Sourabh Jain**, Shanzhen Chen, Zhi-Li Zhang at ACM MobiArch'08 co-located with SIGCOMM'08.

Other Publications

- **Content-based Adaptive Compression of Educational Videos using Phase Correlation Techniques**, Published in the "Ankush Mittal, Sumit Gupta, **Sourabh Jain**, Ankur Jain in Special issue on Multimedia systems" Springer 2005.
- **High Quality Compression of Educational Videos Using Content-Adaptive Framework**, Presented at "Ankush Mittal, Ankur Jain, **Sourabh Jain**, Sumit Gupta at Asian Conference on Computer Vision - 2006", IIIT Hyderabad, India.

Professional Duties

Research Assistant, Jan 2006 – on going

Advisor: Professor Zhi-Li Zhang

Teaching Assistant, Aug 2007 – Dec 2007

Course: 'Data Communication and Computer Networks'

Instructor: Professor Zhi-Li Zhang

Teaching Assistant, Aug 2006 – Dec 2006 & Aug 2008 – on going

Course: 'CSci-4061: Operating Systems'

Instructor: Professor Abhishek Chandra

Projects

An Intelligent Peer-to-Peer file sharing service (Oct 2006 -Dec 2006)

Similar to bit-torrent with selection of nodes on the basis of available bandwidth, latency and minimum common path to destination.

Regional Language Captioning and Bandwidth Adaptive Real Time Transmission of Videos (Dec 2005- April 2006)

Designed a system for distance learning, which can provide real time multimedia streaming by adapting to the network conditions. In order to assist the students, regional language captioning of speech was also provided.

Daemon Talk (May-July 2005)

Developed a software to enable machines to communicate with remote administrators using an Instant Messenger Protocol. (*Project was carried out at IBM ISL Pune, as a part of IBM EXTREME BLUE SPEED INTERNSHIP PROGRAM – 2005*)

Content-Based Compression of Educational Videos(Dec 2004- May-2005)

Designed a system for Content-based compression of lecture videos. Achieved a very high rate of compression while maintaining the quality of video.

Video Surveillance (May-June 2004)

A small surveillance system for human tracking was built using single camera.

Relevant Course work

Theory: *Advanced Algorithms and Data Structures, Statistic Analysis I & II, Introduction to Parallel Computing: Algorithms & Architectures*

System: *Data Communication and Computer Networks, Advanced Computer Networks, Operating System**, *Advanced Computer Architecture**

Application: *Artificial Intelligence (learning), Introduction to Data Mining, Creating the Social Web*

(* were taken at IIT Roorkee – India, all other courses were taken at UMN)

Awards/Achievements

- Secured 8th rank in the Intermediate School Examination-2001 in the state of Madhya Pradesh.
- Stood among top 0.003% students appeared in IIT Joint Entrance Examination-2002.
- Among the top 5 students of my batch at IIT Roorkee in the branch of Computer Science and Engineering.

References

Available on request.