

## PRIYA SEHGAL

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### OBJECTIVE

To pursue a challenging Full-Time job in the area of Storage Systems.

### EDUCATIONAL QUALIFICATION

State University of New York, Stony Brook

**Masters in Computer Science** (Graduating in) Dec 2009 CGPA: **3.73/4.0**(1<sup>st</sup> and 2<sup>nd</sup> semester)

D.Y. Patil College of Engineering, University of Pune, India

**Bachelor's of Computer Engineering** June 2003 Grade: **First Class with Distinction (68.73%)**

### RELEVANT COURSEWORK

Operating Systems, Analysis of Algorithms, Embedded Systems, Discrete Maths, System Security, Advanced Operating Systems (Virtualization), Computer Networks, Computer Architecture, Databases.

### SKILL SET

<b>Languages</b>	C, 80X86 Assembly language (basic), Tcl/Tk, Unix Shell programming, Expect
<b>Platforms</b>	Linux, Windows
<b>Technologies</b>	Linux Kernel Programming, Linux Device Drivers, NFS, CIFS, DFS, Network Programming, SCSI, SAN, NAS, OSD, RAID.
<b>Tools</b>	gcc, gdb, make, IOzone, filebench.

### PROFESSIONAL EXPERIENCE

**5 years**

**File Systems and Storage Lab** ([www.fsl.cs.sunysb.edu](http://www.fsl.cs.sunysb.edu))

Research Assistant

*Green Storage and Systems*

Jan 2009 – Present

- Working on the analysis of file system features that can reduce disk power consumption.
- Currently analyzing power consumption on ext2, ext3, xfs, reiserfs under different workloads.
- Working under *Prof. Erez Zadok*.

**Rether Networks Inc.** ([www.rether.com](http://www.rether.com))

Research Assistant

*Data Paladin Server Support on Samba 4.0 (CIFS Proxy)*

Sept 2008 – Dec 2008

- Developed the functionality of *Enterprise Rights Management System*, for CIFS environment.
- Modified the CIFS Proxy code on Samba-4.0, to prevent unauthorized access by CIFS clients.
- Worked under *Prof. Tzi-cker Chiueh*.

**Proware Technology Corp., Pune** ([www.proware.com.tw](http://www.proware.com.tw))

Software Engineer

*Snapshot Feature Development for Proware's SCSI to SATA*

June 2006 – July 2008

*RAID DAS Solution*

- Responsible for requirement analysis, design and implementation of the Snapshot feature, which allows multiple snapshots of a set of volumes in an array.
- Implemented VSS Hardware Provider on Windows 2003 Server.

**CalSoft Private Limited, Pune** ([www.calsoftinc.com](http://www.calsoftinc.com))

Senior Software Engineer

Oct 2003 – May 2006

*Panasas' DirectFlow Client- Porting on Linux* ([www.panasas.com](http://www.panasas.com))

- The DirectFlow Protocol and client-side file system enables direct and parallel data access between Panasas Storage Blades and client nodes.
- Ported DirectFlow Client to variants of Linux Kernel (versions 2.4 and 2.6).

*Volume Shadow Copy Hardware Provider for Overland Storage* ([www.overlandstorage.com](http://www.overlandstorage.com))

- Designed and developed VSS Hardware Provider for Overland Storage on Windows 2003 Server.

*Elomia Namespace Management for Netapp* ([www.netapp.com](http://www.netapp.com))

- Designed and implemented namespace management module for this project i.e. creation/deletion, discovery and monitoring of namespace objects, DFS Servers, in a Windows domain.

*File system QA for Panasas ActiveStor Parallel Storage Clusters* ([www.panasas.com](http://www.panasas.com))

- Designed and implemented test harnesses for checking CIFS Byte Range Locks, interoperability between CIFS, NFS and DirectFlow, Multi-Protocol Lock Manager, and Access Control Lists.
- Sent to Panasas, California, as an onsite coordinator for six months.

*CIFS Proxy Server*

- Developed TRANS2 SMB packets for the CIFS Proxy server.

**ASC India Pvt. Ltd. (Now Sungard)** ([www.sungard.com](http://www.sungard.com))

Junior Software Engineer

- Worked as a trainee on various JAVA Technologies like Servlets, J2EE.

July 2003 – Oct 2003

## ACADEMIC PROJECTS

1. *Optimized Memory Transfer & Flow Control for High-Speed Networks*
  - The objective was to provide an optimized TCP/IP stack by eliminating the data copy at the socket interface and designed a prototype of a new adaptive rate-based flow control algorithm based on Keshav's Packet Pair and I.Stoica's Core Stateless Fair Queuing.
  - Obtained a performance improvement of 20% in data transfer across the network.
  - Implemented in Linux 2.4 Vanilla Kernel (<http://optimizedstack.0catch.com/>)
2. *Analysis of Disk Power Consumption by ext2, ext3 and xfs*: Analyze the impact of file system selection on disk power consumption.
3. *Integrity Stackable File System (IFS)*: Developed a stackable file system in Linux that can be layered on top of any other file system to provide file integrity, using various checksum algorithms.
4. *TOSSIM Energy Estimator*: Developed an energy estimator in TinyOS 2.0, which calculates the energy consumed by an embedded application, helping us to extrapolate the lifetime of the sensor network application before deployment.
5. *File System Race Condition Prevention*: Developed a library interposer to mitigate security vulnerabilities caused by *time-to-check-to-time-of-use (TOCTTOU)* and unsafe path traversals.

## PUBLICATIONS

1. "Energy and Performance Evaluation of Lossless File Data Compression on Server Systems", Kothiyal, Vasily Tarasov, Priya Sehgal, and Erez Zadok, SYSTOR 2009, The Israeli Experimental Systems Conference.
2. "Optimized Memory Transfer & Flow Control for High-Speed Networks", <http://optimizedstack.0catch.com/docs/paper.pdf>, Priya Sehgal, Mohan Iyer, Jayush Luniya, *IEEE Annual Convention and Exhibition (ACE), India Council*, December 2003
3. "SAN-NAS Convergence", Jayush Luniya, Priya Sehgal, *Chrysalis 2002, IEE Student Paper Presentation*, September 2002.

## ACTIVITIES AND ACHIEVEMENTS

1. Received the *Best Team Member* award for the excellent performance in the Panasas QA Team, in Calsoft Pvt. Ltd
2. 1<sup>st</sup> Prize – Open Software Category, *Concepts 2003*, and a national level project competition held at Pune Institute of Computer and Technology (P.I.C.T), Pune, India.
3. 1<sup>st</sup> Prize – *Unveiling Ventures, TeXplosion2k3*, held at D.Y. Patil College of Engineering, Pune, India.
4. Active member of *Association of Computer Engineering Student (ACES)*, D.Y. Patil College of Engineering.

## REFERENCES

Reference available upon request.