

Education:■ **Arizona State University**

Master of Computer Science (Expected)

Tempe, Arizona.

August 2012 – May 2014

■ **Pune Institute of Computer Technology**

Bachelor of Engineering in Computer Engineering

University of Pune, India.

July 2007 – May 2011

Graduate Courses: Embedded Operating System Internals, Distributed and Multiprocessor Operating system, Introduction to High Performance Computing, Design and Analysis of Algorithms, Multimedia and Web Database.

Experience:■ **Google Summer Code 2011 Developer(Mentoring Org: The Linux Foundation)**

March 2011 – August 2011

Project: **Hot File system backup using Ext4 Snapshots (Open Source Project)**

- Open Source project for Hot File System backup, without the need to 'unmount' the target device, similar to ZFS send/receive.
- Design and implementation of the entire utility with options for full as well as incremental backup.
- Tools/Technologies: C, quilt, e2fs-progs, Git.

■ **Great Software Lab Pvt. Ltd., Pune**

August 2011 – July 2012

Project: **Secure data transfer of an entire file system over WAN**

- Research into alternatives to SSH for secure transfer of file systems over WAN. Study of RSYNC protocol.
- Hacked SCP code to provide option for transfer of file system over HTTPS instead of SSH, implemented server in Python.
- Tools/Technologies: Python (Server), C(Client), OpenSSH, cURL, Git.

Project: **Discovery Tool**

- Cross platform discovery tool for retrieval of detailed information of systems present over network.
- Tools/Technologies: C++, Python, BASH (Linux), Korn Shell (AIX/HPUX), WMI (Windows), PowerShell (Windows), Git.

Academic Projects:■ **High Performance Computing Project (Ripple Wave Simulator)**

February 2013 – Present

- Parallel solver for a continuous wave equation $W_{x,y,t+1} = f (W_{x,y,t}, W_{x,y,t-1}, W_{x+1,y+1,t}, W_{x-1,y-1,t})$
- Tools/Technologies: OpenMP, MPI.

■ **Multimedia and Web database Project (Text Information Retrieval and analysis)**

August 2012 – December 2012

- Use of vector space models, implementation of TF-IDF algorithms and variants over corpus of data and its analysis.
- Implementation of PCA, SVD, LCA dimensionality reduction algorithms, generating latent semantics and social graph analysis.
- Study and implementation of clustering, page-ranking and relevance feedback algorithms.
- Tools/Technologies: Java, MySQL, MatLab, Git.

■ **Distributed Multiprocessor Operating system Project(User level thread library)**

August 2012- December 2012

- Implementation of user level threads library and simulation of preemptive scheduler.
- Implementation of semaphores, synchronization, message passing, client-server application via ports using this library.

■ **Embedded Operating System Internals Project**

August 2012 – December 2012

- Study of Linux internals, booting of Linux on ARM architecture and implementation of device driver
- Memory allocation using slab allocator, synchronization using semaphores, debugging using GDB,KGDB.
- Tools/Technologies: Kernel programming in C, Gdb.

■ **Snapshots for EXT4 File System (Open Source Project)**

June 2010 – March 2011

- Open Source project for point in time image (Snapshot) of Linux Ext4 File System, providing reliable backup and recovery.
- Involved in design overview, implementation of read through logic for the code, porting code, creating patches.
- Design and implementation of 'Restore tool' application based on Ext4 Snapshots.
- Prepared Snapshot patch series for Ext4 file system. Credits: <http://lwn.net/Articles/442078/>
- Tools/Technologies: Kernel programming in C, quilt/patch, e2fs-progs, Git.

Technical Skill Set:**Languages:** C (Proficient), C++(Proficient), Java(Moderate), Python(Beginner), OpenMp(Beginner),MySQL(Moderate)**Operating Systems:** Development experience in Linux, Windows 7; **Versioning Control :** Git; **Editor:** Emacs; **Patching:** patch/quilt.**Academic Achievements:**

1. 1st Prize Paper Presentation & 3rd Prize Project at National Level Competition in Birla Institute of Technology & Science, Goa.
2. 2nd Prize Paper Presentation & 2nd Prize Project at National Level Competition in Indian Institute of Technology Kanpur (IITK).