AMIT GUD

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OBJECTIVE

To develop innovative computer systems and further the systems knowledge.

WORK EXPERIENCE

- Senior Kernel Development Engineer – **Akamai Technologies**, CA.
  April 2009 – Present

Working on adding new features, improving scalability and availability of Akamai's custom Linux kernel.

Current projects include setting up the framework to predict disk drive failures in about 48k field machines world over with more than 300,000 disk drives in all. Another project involves delimiting the data loss in a crashed ext3 file system.

- Member of Technical Staff - **VMware, Inc.**, Palo Alto, CA.
  June 2007 – February 2009

Working on developing host to guest file system (HGFS).

HGFS is a cross-platform network fs with client server model. I lead important development on cross-platform server and Linux client. Helped develop number of important features like case-insensitivity, and support for asynchronous operations and pluggable transports. Did complete architecture change to move from synchronous transport to asynchronous ones. Did protocol revision to support case-insensitivity and base for other features like change notification, oplocks, EAs, and byte range locks.

Also worked on guest to host time synchronization using a novel clock slewing technique not used so far in VMware. Also worked on Memory balloon driver.

- Graduate Teaching Assistant **- Kansas State University**.
  August 2006 – May 2007

Taught graduate-level computer science courses.

- Software Engineering Intern - **Red Hat, Inc.**, Westford, MA.
  May 2006 – August 2006

Hacking on NFS - fixing bugs and adding minor features and upstream NFS user tool modifications. As a cross-functional intern project, participated in developing future investment plan in BRIC countries for Red Hat.

- Graduate Research Assistant - **Kansas State University.**
  August 2005 – May 2006

Worked with Dr. Neilsen designing software tools for Watershed Dam Design/Analysis for **United States Department of Agriculture** (USDA).

- Associate Software Engineer - **Symantec Corporation / VERITAS Software**, Pune, India. ***March 2005 - July 2005***

Project: *Opforce*, an automated server deployment tool.

- Quality Assurance Engineer - **Calsoft Pvt. Ltd.**, Pune, India.
  October 2004 - March 2005

Project: *Panasas*, a scalable and distributed storage solution based on Object Storage Devices (OSD).

- Project Intern - **Defense Research & Development Organization** (DRDO), Pune, India. ***May 2003 – April 2004***

Project: Embedded web server for missile launcher controller facility.

MAJOR PROJECTS & SEMINARS UNDERTAKEN

- [Thesis] [LINUX KERNEL] chunkfs – a recovery-driven file system design approach to reduce file system checking and crash recovery (fsck) time.
- [P2P NETWORKS] Random search techniques in unstructured decentralized peer-to-peer networks.
- [LINUX KERNEL] Elastic Quota File System (EQFS) - maximizes disk space utilization on the server.
- [NETWORKS / REAL-TIME] Embedded web server for DRDO, Pune.
- [REAL-TIME] Remotely controlling household devices.
- [REAL-TIME] Embedded car controller using Siemens 167 & CAN protocol.
- [REAL-TIME] Worked on a GPS project for fleet tracking using GPS.

PUBLICATIONS / TALKS

- "*Chunkfs*" Ottawa Linux Symposium (OLS) 2007.
- Henson, V., Ven, Arjan, Gud, A., Brown Z. "Chunkfs: Using divide-and conquer to improve file system reliability and repair." **USENIX HotDep 2006**.
- Gud, A. "Smart Card Technologies & Markets Worldwide." 171-page Analyst Report published by Business Communication Inc., CT, USA
- Gud, A., Andresen, D., Mizuno, M. "A Scalable Search Algorithm in Unstructured Peer-to-Peer Networks." **PDPTA 2006**.

EDUCATION

- **Master of Science** (M.S.) from Kansas Sate University, Manhattan, KS. ***August 2005 - May 2007***

Major: Computer Science. **GPA: 3.89 / 4.00**

- **Bachelor of Engineering** (Computer Engg.) from University of Pune, India. ***August 2000 - May 2004***

Stood 5th amongst 140, first Class with Distinction.

TECHNICAL SKILLS

- Specialized in on-disk and network file systems.
- Linux Kernel-space / user-space programming.
- Multi-threaded programming.
- Familiarity with numerous operating systems like TinyOS, BrickOS, Lejos and Windows.
- Familiarity with debuggers and various SCMs.

MAJOR LINUX KERNEL PATCHES

- Patches contributing to Btrfs.
- Spinlock initialization unification.
- PCI driver migration to new style device probing.

MAJOR AWARDS

- 3rd prize at IIT Techfest Competition, Mumbai for project Remotely Controlling Devices.
- Abhinandan Shah Memorial Computer Excellence Award 2004 by Rotary Club.
- Travel Grant by USENIX for OSDI 2006 conference and HotDep 2006 workshop.

INTERESTS

- Writing and journalism – Published writer. Contributing Editor, Card Technology Magazine, USA. Published technical and non-technical articles in numerous national and international publications.
- Social work – working with non-profit organizations like Masum and Sanmati Bal Niketan. Primarily help them spread the word.

ASSOCIATIONS AND MEMBERSHIPS

- USENIX, Pune LUG (PLUG), K-State LUG (K-SLUG).