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Raghavendra Prabhu

Education

2004-2008 **B.Tech.**, *National Institute of Technology Karnataka, (NITK) Surathkal, GPA.*
8.74

Undergraduate thesis

title *Link-Based Object Classification and Ranking with unsupervised learning*
supervisors Dr. Santhi Thilagam
description Dealt with classification and ranking of web pages based on Link Mining and Self-Organizing Maps.

Research Interests

Linux kernel/userspace, Databases, Machine Learning, GPGPU, Distributed Computing,
Data Mining.

Experience

Vocational

Jan 2013 - **Product Lead**, Percona LLC.
Present As the Product Lead of Percona XtraDB Cluster, handling the development and release of it.
2011-Dec **Senior Support Engineer**, Percona Inc.
2012 Handled launchpad-related development work along routine consulting issues as well as supporting issues.
2008-2011 **Systems Engineer**, *Cloud Computing*, Yahoo! Research and Development, Bangalore.
Worked on memory mapped databases, replication, distributed hash tables and MySQL. I have implemented a readahead consumption of replication feeds for MySQL and an automatic failover implementation for database slaves among other things.

Internship

2007-2007 **Programmer**, *Indygo Software Systems*, Bangalore.
Primarily worked on an application of speech recognition to phones with JTAPI using CMU Sphinx and was challenging in terms of interoperability.

Publications

- *SOMGPU: Self Organizing Maps on a Graphical Processing Unit for Pattern Classification*: Published at IEEE Congress on Evolutionary Computation (CEC) which was part of IEEE World Congress on Computational Intelligence (WCCI) 2008. [dx.doi.org/10.1109/CEC.2008.4630920](https://doi.org/10.1109/CEC.2008.4630920)
 - *GNeuron: Parallel Neural Networks with GPU*: Presented at 14th International IEEE Conference on High Performance Computing (HiPC) 2007. hipc.org/hipc2007/posters/GNeuron.pdf
- Individual author in both.*

Skills

Languages C, Python, Perl, Shell scripting, Haskell, LaTeX.

Operating Systems Linux, FreeBSD

I am quite well versed in Linux kernel and GNU/Linux internals, virtualization platforms like KVM, VCS like git, bzr and mercurial, and also have worked on several FOSS projects. I also possess an intimate knowledge of MySQL internals (Galera/InnoDB/XtraDB), XtraBackup internals, Percona Toolkit, memory-mapped databases, and distributed hash tables.

Projects

For more/recent FOSS projects visit wnohang.net/code and ronin13.github.com

Percona XtraDB Cluster Have been responsible for several feature-rich releases of the product, architecting newer SST mechanisms, fixing long-standing bugs.

Linux Kernel I am involved in development/debugging of different areas of Linux kernel including but not limited to – filesystems (XFS, BTRFS), VM (Readahead), kbuilds, security, I/O; many of which are upstream, build-testing them with my KVM testing harness and reviewing commits of others. My git tree is here <http://goo.gl/KFfjs> with corresponding topic/feature branches.

MySQL I have worked on areas like fallocate for InnoDB tablespace extension, increment for Innodb single tablespace (located at <http://goo.gl/pgly0>), and also made several contributions to Percona Server, Xtrabackup and Percona Toolkit.

Neural Cryptography Implementation involves synchronization of two TPM (Tree Parity Machines) for secure key exchange with faster convergence.

GNeuron Neural network library making use of GPU (Graphical Processing Unit) for parallel computation (GPGPU) with nearly 5x speedup over its sequential counterpart.

Mushacadotnet Adds an additional degree of freedom to computer mouse. First of its kind. This makes use of RawInput Win32 API and MouseHooks and is useful in scientific simulations/visualizations. Role:Team Leader.

Getmail Extended the mail delivery platform with a two-legged xoauth implementation; also fixed the ENOSPC handling with filesystems like ext4 and trimmed the fsyncs to reduce CPU load.

Mounty/Xail A Linux utility to manage plug-n-play external drives based on inotify and udev, and provision for custom mount configuration. Xail is a window manager written in python to provide toggle-based window switching with support for hooks.

STM An implementation of lock free solution to *Dining Philosophers* problem using Software Transactional Memory (STM).

Achievements

- Presented talks at professional conferences: database conference [PLMCE 2013](#) and FOSS conference [FOSDEM 2013](#).
- Won 2nd place in the event Mushaca, a three dimensional mouse design event. It is the first driver-less implementation of Mushaca.
- 2nd place in Verisimilitude, an algorithm competition conducted during Engineer '07, an annual university fest.
- I also received the IEEE CIS (Computational Intelligence Society) Conference Travel Grant in the year 2008.
- I have authored a scientific work on the nature of *Time and Entropy* titled *Your Time and My Time and Time*. This was part of FQXi (Foundational Questions Institute) *The Nature of Time* contest.
- Mention of my work in the newsletter of ACM Special Interest Group on Genetic and Evolutionary Computation - SIGEVolution.
- Secured 9th rank in Karnataka Common Entrance Test (CET) for Engineering in 2004, in which more than a hundred thousand people compete.

Additional Information

- Member of IEEE for a period of two years and of IEEE CIS (Computational Intelligence Society) for one year.
- I also underwent training on Enterprise Resource Planning (ERP) in Aircraft Division of HAL (Hindustan Aeronautics Limited) and a 30 hour workshop conducted by Accenture on the same.