**Sandhya B. Bankar**

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| **Email –** [**bankarsandhya512@gmail.co**](mailto:bankarsandhya512@gmail.com)**m** | **Contact No** | **+91-9518547561** |
|  | **Passport No** | **K4073498** |

# Objective

To work in tandem with a team in a challenging and competitive environment where I could improve my knowledge, capabilities and put them to use for the development of the organization

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| **Work Experience** |  |
| * **Linux kernel Intern** | **Dec 2016 – May 2017** |
| **The Linux Foundation** |  |

The Linux kernel Interned through Outreachy in Round 13. ( [https://wiki.gnome.org/Outreachy/2016/DecemberMarc](https://wiki.gnome.org/Outreachy/2016/DecemberMarch)h). Outreachy is hosted by Software Freedom Conservancy with special support from RedHat and the GNOME Foundation for Women in technology to support women participating in free and open source software since contributors to free and open source projects have mostly been men.

The project "radix tree alloc\_fd" was completed under the guidance of mentor Matthew Wilcox and Rik Van Riel. It was amazing support through the mentor for the alloc\_fd project.

Specific about the project, The project has worked for patchset of the IDR (integer ID management). IDR is like radix tree structure. In this currently converting file allocation code to use the IDR. The file descriptors are allocated using a custom allocator. So patchset of this will replaces the custom code with an IDR. This replacement will result some memory saving for processes with relatively few open files and improve the performance of workloads with very large numbers of open files. The link of submitted patch is,

[http://marc.info/?a=146149549800002&r=1&w=](http://marc.info/?a=146149549800002&amp;r=1&amp;w=2)2

* **Open Source Experience August 2015 – Present**

**Mainline Kernel**

Contributor – Code Contribution for Linux Kernel 4.5. [http://git.kernel.org/cgit/linux/kernel/git/next/linux-next.git/log/?qt=grep&q=sandhya+banka](http://git.kernel.org/cgit/linux/kernel/git/next/linux-next.git/log/?qt=grep&amp;q=sandhya%2Bbankar)r

Contributing patches for main branch Linux Kernel 4.6.

<http://www.spinics.net/lists/kernel>

[http://search.gmane.org/?query=sandhya+bankar&group=gmane.linux.kernel](http://search.gmane.org/?query=sandhya%2Bbankar&amp;group=gmane.linux.kernel)

Linux Kernel 4.7 RC7 [https://patchwork.kernel.org/project/LKML/list/?submitter=16310](https://patchwork.kernel.org/project/LKML/list/?submitter=163101%20%20%20%20)1

Development tools: - GIT, GCC, Vim, GDB.



**Technical Profile**

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|  | Integration Skills: | Extensive practice experience on C, C++, Data structure, Algorithms. |
|  | Operating System: | Linux, Window, Redhat Administration knowledge etc. |
|  | Languages: | Knowledge of Python Scripting (Intermediate), UNIX Shell Scripting. |

* Working Interfaces and Protocols: SSH, FTP, SMTP & HTTP, HTTPS.
* Knowledge of Operating System Fundamentals.
* Knowledge of Security Algorithms**.**

## Academic Qualification

* + M-Tech in Computer Networks (University of Pune, Maharashtra, India. Sep - 2017)
  + RHCSA/RHCE Certified Engineer with 95%.
  + PG Diploma in Integrated VLSI & Embedded System Design with 63% (CDAC Pune).
  + BE in Electronics & Communication Engineering with 74% (BAMU, Maharashtra, India)
  + Diploma in Industrial Electronics with 72%. (GPA)

## Academic Projects

**ME Project: - Securely Data-Gathering Cluster-Based Wireless Sensor Network Design**

Wireless sensor networks are the collection of sensor nodes which are spatially distributed over a wide spread areas for the collection of sensed data and are responsible for sending the data to appropriate stations where data analysis is performed. The key issue with this type of sensing and sending the data is the required time and energy of sensor nodes. Each sensor node is deployed with some amount of battery power which reduces with routing and at some point can even finish the networks lifetime. The energy aware clustering is one solution to this problem but instead of considering only energy parameter we are proposed and studied the building an efficient clustering algorithm which can provide efficient cluster heads. The effective lossless data aggregation with energy aware route formations is a plus in our algorithm. The security is also critical concern in this context which is left unnoticed in the existing systems. We are introducing a security algorithm which provides data security as well as authentication for each node. We are comparing the systems with time and energy parameters to show the proficiency of our system.

Software and Hardware Required: - Java 1.8, Netbeans version 8.1, PC etc.

**CDAC Project: - PCI Express Device Driver with UART Port** - MCS 9901 Linux driver provides support for UART controller to be accessed by the PCI Express interface by Linux operating system. This driver used to enable communication between local nodes with remote serial node of another system. This driver typically communicates with the PCI devices through the computer PCI Express bus or communications subsystem to which the hardware connects.

## PROJECT: - Electronics Enhancement in Automobile & Industrial Process

Microcontroller based Electrical system analyzer :- Test various voltage conditions for cracking ,idling, resetting etc. of the magneto used in Automobile Industry .This system was implemented on performance testing machine. Power control System:- Power control system on-off of load remotely. Get the information load on .switching of the heavy load.

## Paper Presentation

* + - Talk on “Implementing IDR in file descriptor allocation code path ( alloc\_fd())” in Open Source Summit North America 2017.
    - LinuxCon + ContainerCon + CloudOpen Beijing China 2018 - LF Asia, LLC 2018 event had been attended.
    - Paper Presentation on Network Security for Post Graduate Conference an annual event CPGCON 2016.
    - Paper Presentation for Event National level Technical Research paper Competition 2016 on Mobile Computing.

## Scholarship

* + - Scholarship winner for Open Source Summit North America 2017 invited as speaker.
    - Scholarship winner for LinuxCon + ContainerCon + CloudOpen Beijing China 2018 - LF Asia, LLC 2018 .



**Personal Details**

* + - Language Known – English, Hindi
    - Sex – Female
    - Country – Pune, India , Asia

Blog - <http://sandhyabankar-kernel.blogspot.in/2017/01/performance-test-case-in-radix-tree.html> LinkedIn [https://www.linkedin.com/profile/preview?locale=en\_US&trk=prof-0-sb-preview-primary-butto](https://www.linkedin.com/profile/preview?locale=en_US&amp;trk=prof-0-sb-preview-primary-button)n