## Balakumaran Kannan

System Programmer

Linux system programmer having 7 years of experience with Bachelor of Engineering degree specialized in computer science and engineering. Open source contributer, hobby blogger and proud fan of Vim

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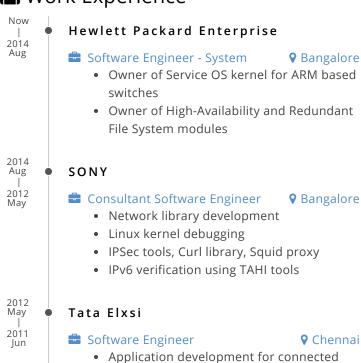
Bangalore ♥

link

github.com/kaba-official 🔿

www.eastrivervillage.com 🚱

# Work Experience



## Skills







# Significant Works

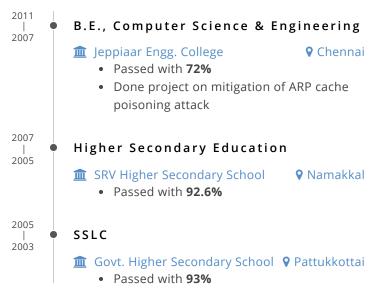
#### Patents filed

- 1. High available DHCP service by running DHCP servers on a BlockChain network
- 2. Multiple-site Virtual Private Network secured by IPsec, using Blockchain application for key exchange to optimize number of IPsec rules

#### Contribution to Linux kernel

- smsc911x: set NOCARRIER flag in driver initialization
- Check for aneg completion before setting state to PHY\_RUNNING
- Remove stale condition check in phy link
- Fix broken IPv6 routing table after loopback down-up

# **Education**



# Projects

2018

### ARM board bring-up



#### Hewlett Packard Enterprise Bangalore

- Brought-up two boards one is based on ARM64 NXP SoC. Another is internal developed ARM32 SoC
- Compiled complete Linux OS using Yocto
- · Worked on kernel config and userland package selection
- Modified the device-tree for board requirements
- Fixed multiple compile-time and bring-up time issues
- Also worked some part of u-boot and First Stage Loader for the ARM32 board

Dec 2017

### Core-dump capture design



#### Hewlett Packard Enterprise Bangalore

- · As a part of core-team that developed new generation Linux based access switches, I was initially responsible for core-dump capture mechanism
- Developed a method to capture coredump on a NFS drive
- Worked with kexec system call to capture kernel core-dump
- Used Yocto framework to add necessary kernel config options and packages

May

#### HA/RFS module development



#### Hewlett Packard Enterprise

#### Bangalore

- · Owner of High-Availability [HA] and Redundant File System [RFS] modules for a range of HPE procurve switches
- Played a key role in the core-team that developed Fron Plane Stacking [FPS] switches
- Re-architectured HA/RFS modules to make it work seamless in both BPS and FPS environment
- Participated in complete development cycle - Design, Develop, Test and Maintanence

2014 Aug 2013

### Preperation of open source tools



#### **SONY**

Bangalore

- Part of a team that developed a Linux distribution to be used in SONY devices
- Ported open source network packages like Curl, OpenSSL, Squid, Connmon, IPSEC tools to ARM platform
- Replaced all deprecated system calls from OpenSSL and added IPv6 support to it

2014 Aug 2013

### IPv6 compliance verification



Bangalore

- Performed IPv6 Ready Logo tests with TAHI test framework
- Basic IPv6, DHCPv6, IPsec tests were performed
- Identified bugs with Linux IPv6 kernel stack and a driver. Contributed fixes kernel community

2012 May 2013

### Networking library development

**SONY** 

Bangalore

- Developed a full-fledged network library in Linux that supports both wired and wireless
- This library was developed to be used in SONY TVs and Blueray DVD players and are still in use
- Developed with both IPv4 and IPv6 support
- Participated in all phases of development cycle - investigation, design, development, test and maintanence

2012 May 2011

### Application development for connected devices



Coimbatore

• Developed two prototype applications -BigFlix and Flikr - on Samsung Smart TV, Panasonic VIErA connect TV, ROKU and BOXEE streaming player