## Balakumaran Kannan

System Programmer

Linux system programmer having 8 years of experience with a Bachelor of Engineering degree specialized in computer science and engineering. Open source contributer, hobby blogger and proud fan of Vim

kumaran.4353@gmail.com ₩

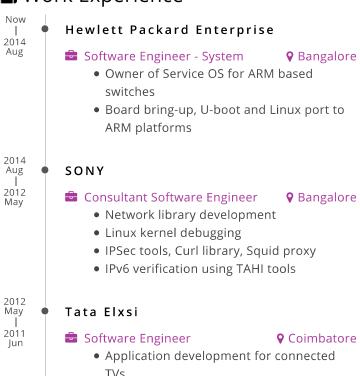
+91 7406479544 📞

Bangalore 🕈

github.com/kaba-official 🗘

www.eastrivervillage.com 😵





## Skills



Assembly

Yocto

# Significant Works

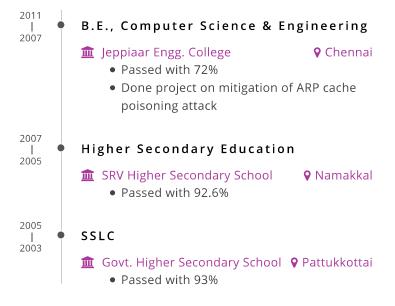
### Patents filed

- 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
- Fix broken IPv6 routing table after loopback down-up

## **Education**



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## Projects

Now | 2017 May

# Linux OS development for ARM & ARM64



- Bangalore
- Brought-up two boards. One is an ARM64 based SoC provided by NXP, another is an in-house developed ARM32 SoC
- Prepared our own Linux distribution using Yorto
- Worked on kernel config and userland package selection
- Managed device-tree changes for the board
- Fixed multiple compile-time and bring-up issues

Now | 2018 Sep

#### Bootloader development for ARM32

Hewlett Packard Enterprise

**♀** Bangalore

- Developed First Stage Loader (FSL) for the in-house build ARM32 platform
- U-boot is configured, built and kept as an integral part of FSL
- After console and DRAM initilization, control will be given to u-boot
- Worked closely with hardware team for DRAM inialization sequence and BIST enablement

Now | 2017 May

### Other significant activities

Hewlett Packard Enterprise

- **♀** Bangalore
- Updated syscon-reboot driver to set DDR in self-refresh mode before reboot. It required a procfs file cretion, an ideal mapping section in kernel and careful alignment of reset code.
- Enabled D-cache in kexec purgatory code, which reduced boot time
- Debugged multiple early-boot issues with early\_printk and JTAG
- Spent significant amount of time with ARM,ARM64 Assembly code
- Designed a core-dump capture system to capture kernel-core dump via NFS

2017 May | 2014 Aug

### 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 SONY Linux

SONY

Bangalore

- Part of a team that developed a Linux distribution for SONY devices
- Ported open source network packages like Curl, OpenSSL, Squid, IPSEC tools
- Performed IPv6 Ready Logo tests with TAHI test framework
- Identified bugs with Linux kernel. Contributed fixes kernel community

2013 Mar | 2012

### Networking library development

**SONY** 

Bangalore

- Developed a network library with wired and wireless support
- It was used in SONY TVs and Blueray DVD players and are still in use
- Participated in all phases of development cycle

2012 May | 2011

# Application development for connected devices

Tata Elxsi

Coimbatore

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