Abhiram Balasubramanian

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SUMMARY

- Seeking a full-time position as a Systems/Software Engineer.
- Areas of Interest : Low-level kernel development/systems programming, hard real-time embedded systems programming and debugging/performance analysis.

EDUCATION

University of Utah *GPA : 3.7/4.0*
Master of Science, Computer Science (Thesis Track) *Expected : August 2017*

Sri Ramakrishna Institute of Technology, Anna University *GPA : 76%*
Bachelor of Engineering, Electronics and Communication Engineering *May 2010*

PROFESSIONAL EXPERIENCE

Samsung Research America *Intern*
Mountain View, CA *May 2016 - August 2016*

- Built a protection domain library to support fault isolation using safe features of Rust
- Extended NetBricks (NFV framework in Rust) with protection domains to isolate faults
- Implemented fault recovery mechanism, compiler plugin to support automatic checkpointing of objects
- Submitted for HotOS XVI

Robert Bosch India *Senior Software Engineer*
Coimbatore, India *May 2013 - July 2015*

- Design of PCIe Multi-IO card to aid autonomous driving for Mercedes Benz.
- Hardware debugger (JTAG) design using openOCD for Embedded IDE.
- Optimizing interrupt latency on automobile's ECU running RT-Linux

Kalycito Infotech *Senior Design Engineer*
Coimbatore, India *October 2010 - April 2013*

- Worked on Open-source real-time Industrial Ethernet stack - openPOWERLINK
- PCIe based high-performance openPOWERLINK master on Xilinx platform.
- Linux BSP development/board bring-up on evaluation platforms.

RESEARCH EXPERIENCE

Flux Research Group *Graduate Research Assistant*
University of Utah *August 2015 - Present*

- Fast NVMe layer for a decomposed Linux kernel (thesis - isolate kernel subsystems for better security with improved performance)
- Mitigation of SROP attacks in Linux kernel - submitted a patch to Linux Kernel

RELEVANT SKILLS

- **Programming languages**: C, Rust, Python, x86/ARM Assembly, Shell scripting
- **Version Control**: git and SVN
- **Protocols/Standards**: PCIe, JTAG, SPI, I2C, RS232, Ethernet POWERLINK, CAN 2.0
- **SoC/Controllers**: Freescale's i.mx6, Xilinx Zynq 7000, TI's AM335x, FPGAs (Xilinx and Altera)