Palak Shah

Senior Embedded Software engineer

Union, NJ - Email me on Indeed: indeed.com/r/Palak-Shah/57d4d38043347e8e

Authorized to work in the US for any employer

WORK EXPERIENCE

Senior Embedded Software Engineer

Canary Connect Inc - New York, NY - October 2014 to Present

Canary is a New York City-based startup that is revolutionizing the future of home security. The flagship Canary product offers complete home monitoring in a single device – an IoT based smart camera with other sensors. Primarily involved in design and development of full stack - application to device driver, kernel changes, BSP and bring up, in a fast-paced high pressure environment.

Board bring up: Travelled to Taiwan for board bring up of next generation Canary product. Worked closely with the ODMs (Ambarella, Sercomm) to successfully boot up the kernel, along with bring up of image sensor, audio, Ethernet and wifi. Also, made BSP changes in bootloader and fixed eMMC issues to boot the kernel.
• Designed and implemented I2C based device drivers for various sensors - fuel gauge, battery charger and ambient light sensors, along with the application to access the data from the device.
• Designed and implemented an I2C based EEPROM device driver along with supporting application to collect the logs which will aid in debugging in case of reboot.
• Designed and integrated Ambarella's Image service feature related to AAA (Auto exposure, Auto focus and Auto white balance) into our own application, to make it more CPU efficient. • Ported and modified kernel and application for over-the-air (OTA) firmware update package for product family.
Implemented a feature in the application software to upload video segments from the device to the cloud every 10 mins to aid in a smoother experience when user is watching live on the camera.
Designed and implemented feature to upload wifi and battery stats periodically from the device to the cloud, which involved writing device driver to read data from the device, writing an application that collected the data and uploaded it to the cloud periodically.
• Involved in several bug fixes and video stack optimizations on current and new products.

Senior Staff Software Engineer

Motorola Solutions - Holtsville, NY - August 2012 to October 2014

Working as a Senior Staff Software Engineer at Motorola Solutions, as a part of DCS (Data Captures Solutions) group,
primarily responsible for making barcode scanners. We provide scan engines along with the SDK that includes software
decoding libraries (SDL) as well as low level Android Camera sources, to OEMs.

Bring up the Android Camera Stack (device driver, kernel and HAL changes) on different platforms and different Android
versions - TI OMAP3 with Android ICS, TI OMAP4 with ICS and JB, and Qualcomm 8960 with JB and KitKat
Responsible for engineering testing of SDL - Android Barcode app, JNI libraries and low level software
Interacting with customers and helping them integrate Software stack as well as fix bugs
Working closely with other teams at Motorola, to identify and fix customer issues in various components of SDL

Senior Software Engineer

Samsung Telecommunications America - Bridgewater, NJ - January 2012 to August 2012

Android Application Development on Samsung handsets.
Primarily involved in design, implementation and launch of one or more non-trivial Android Applications on Samsung
handsets, using state of the art- Android APIs and Frameworks. Also work closely with QA team to identify, debug and fix
production issues.

Software Engineer

Intel Corporation - Hillsboro, OR - February 2009 to January 2012

Worked through the Windows 8 development cycle on prototyping, enabling and analyzing various Power management
features, mainly focusing Server Power management. Responsible for Identifying hardware and software based power and performance optimization opportunities. This includes comprehensive data collection and analysis on Intel platforms,
proposing technology enhancements, enabling and prototyping new features, and working closely with Architecture and other groups at Intel to provide input into next-generation Intel hardware and software architecture.

Projects:
• Worked closely with Intel Labs and an Architecture group at Intel to provide Windows based emulation support for
Heterogeneous Core computing path finding project. Implemented PCU algorithm that does core selection for swapping a small core to Big Core in a Windows emulation driver and interfaced the same with Processor driver and the kernel.
• Prototyped, enabled and analyzed a new power management feature (ACPI spec 4.0 Logical Processor Idling) in OS.
• Worked with Server Platform Architects and developed a kernel mode driver to enable/disable platform power management based on system utilization to increase system idleness to save power.
• Worked closely with Microsoft on new Windows 8 feature, MemCooling, which involved
o Developing a kernel driver to understand the memory access patterns and power management Windows 8 incubation and delivered it to Microsoft.

o Detailed code study and analysis of the MemCooling feature in Win8 on various Intel Server platforms.
• Provide OS debugging support to various groups within Intel.

System Software Intern, Apple Systems Software Group

NVIDIA - Santa Clara, CA - May 2008 to August 2008

Worked as a part of the Resource Manager (RM) device driver team of Nvidia on the next generation products of
MAC. Also developed a tool for reading DPCD registers used for debugging.

Embedded software Engineer

EInfochips Ltd - Ahmedabad, Gujarat - January 2006 to June 2007

Projects:
Client: Texas Instruments

Device Driver Development in Monta Vista Linux with kernel 2.6.10 and GCC cross compiler tool chain for resizing a
video image given to Video Processing Subsystem (VPSS) which is a sub module of DaVinci SoC having ARM926EJ and
DSP processor developed by Texas Instruments

Client: Texas Instruments
Porting Porting UBoot and Video Processing Back End VPBE drivers for open Source Monta Vista Linux with kernel
2.6.18 on DM350 SoC having ARM926EJ core, SoC developed by Texas Instruments

Client: eInfochips Ltd.
Developed a serial communication protocol between the host machine (Desktop) and the target (GP7000 board with ARM9
based S3C2410 SOC) for Nits Arm Based Kernel Debugger. The OS used on the board was Red Hat Linux 8.0 with Kernel
2.6.14. GCC 3.4 compiler and related tool chain for cross compilation

EDUCATION

Master of Science in Electrical and Computer Engineering

Georgia Institute of Technology - Atlanta, GA
August 2007 to December 2008

Bachelor of Engineering in Computer Science

Nirma Institute of Technology, Gujarat University
October 2002 to June 2006

SKILLS

C, C++, Embedded and real time systems, Android, OS, Architecture, device drivers, windows/linux/kernel programming (10+ years)

ADDITIONAL INFORMATION

TECHNICAL SKILLS
• Programming Languages: C, C++, Basics of Java
• Technologies: Windows/Linux/Android kernel programming, device drivers, data structures and Algorithms, Embedded and Real time Systems, OS and Computer Architecture, Android Camera Stack, Android app development using SDK, JNI
• Hardware: x86 Architecture, ARM processor