Jaehyek Choi

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Experience Summary

Embedded/Firmware Driver Developing :

2D/3D Display driver for Windows with PCI bus, USB Camera, USB Storage, LCD, Serial I/O, irDA stack, I2C, SPI, Bluetooth Profile, GPIO, JPEG, MPEG4, Flash Device (NOR,NAND) in Realtime OS, eMMC/UFS in android, WDM in Windows OS

**Programming Language and Development Platform**:

C/C++, Java, Python, PyQt, MSSQL, Sqlite3, Assembly(MASM) On Intel and ARM, Gcc & ToolChain in Ubuntu(Linux), MS Visual Studio VC++, Git, Eclipse, Android Studio, Tensorflow, Theano, Caffe

**Project Leader/Manager**:

Function Leader : Bluetooth

Project Leader: Mobile Phone( Racetac, PCC, Verizon Wireless )

Manager : Validation of Quality, and Improvement of Field Defect

**Statistics and SW Quality & Reliability**:

Six Sigma Master Black Belt with ANOVA, Linear/Multiple Regression Analysis,

multivariate analysis, FMEA, Gauge R&R, 5-Why, SPC , Minitab ( statistic tool )

**Image Processing:**

Realtime image detection using OpenCV and Faster-RCNN based on tensorflow

( just started 1.5 year ago )

**Certificate**:

Six Sigma MBB(Master Black Belt) from LG Electronics

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Work Experience in detail

LG Electronics ( Mar 2004–present )

**Position Title : Software Project Leader/Manager**

**Role1: Developing Linux Kernel Driver and Component Reliability.**

* Developing: eMMC Kernel Device Driver for Android Phone
* Setup **eMMC/UFS FTL(flash translation layer) Validation** Equipment & processing

- **Target vendor**: Samsung, Toshiba, SK Hynix, SanDisk, Micron

- **Validation Items** : Wear Leveling, Bad Block Management, Garbage Collection,

Power Off Recovery, Mapping Algorithm

- **Method**: Sudden Power Off with GPIO, Random-Write/Sequence-Write, Sleep/Wake

- **Platform** : Linux Little Kernel from BootLoader

- **Issuing Certification** : certificate to the Target Vendor for mass product.

- **Failure Mode Collection**( refer to **https://jaehyek.github.io/category/#eMMC-UFS** )

* Analyzing Field Failure Mode from Service Center DataBase.
* Monitoring the trend of FFR ( Field Fail Rate ) of eMMC/UFS
* Automation : Android Phone UI & Screen Touch for testing

- Automation with AxiDraw to touch on smartphone.

- Detecting Abnormal Image on smartphone using OpenCV and Deep Learning

( CNN, Faster RCNN, )

**Role2 : Feature Phone Software Project Leader**

* Project Leader: Verizon Wireless Phone (VX9800, VX9900).

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Motorola Korea (June 2002–Dec 2003)

**Position Title : Embedded Software Engineer & Function Leader**

**Role : Writing Device Driver for Mobile Phone and**

**Function Leader of Bluetooth Profile**

* Writing Device Driver : LCD, NOR Flash Memory, PMIC(Power management)
* Project Participation : RaceTac, T720,
* Function Leader : Bluetooth stack(Headset, Hands-free, DUN )

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Synertek Korea inc. (April 2000–June 2002)

**Position Title : Embedded Software Engineer**

**Role : Writing device driver for PDA-one Chip Design.**

* Writing driver : USB Camera, USB Storage for Realtime OS.
* Porting Protocol : IrDa Stack, TCP/UDP/IP/TFTP
* Guiding a H/W design Structure : JPEG, MPEG4

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SAMSUNG Electronics (Feb 1990–Mar 2000)

**Position Title : Firmware Software Engineer**

**Role : Writing Display device driver for PCI-Bus Graphic Accelerator One Chips**

* Guiding a H/W design Structure for Graphic Chip
* Writing the 2D, 3D Display Accelerator Device Driver for Windows3, 95, NT, 2000
* Writing the Video BIOS for PCI-Bus Graphic Accelerator Chip
* Supporting all of windows products.