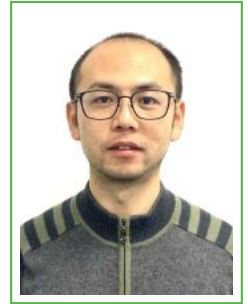# Zhiqiang Xu

Senior software architect

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Last update: 4-3-2022

Work as a hacker. Hack as an artist.

SUMMARY

○ B.E. with 15 years software develop experience.
○ Especially, 14 years embeded software develop exprience. Including 3 more years on vehicle related projects development, 7.5 years on developing mobile phone, and 3.5 years on robot development.
○ Excellent in C, bash, linux, rt-thread, version control and docker operation.
○ Be familiar with software design, problem solving and debuging skills.
○ Experience on ROS and docker technic. STM32 based sensors implementation.

PROFESSIONAL EXPERIENCE

2019.10 — present **Software architect**, *SAIC MAXUS*, Shanghai
Responsibilities: Software architecture design for next generation cockpit.
○ OTA protocol maintenance and revision.
○ CI/CD services deployment.
○ Domain controllers' clock sync policy constitution.
○ Multi-system running on single-core H/W scheme design.
○ Software modules definition and architecture design for intelligent cockpit controller based on Qualcomm 8155.

2018.06 — 2019.09 **Senior System architect**, *Shanghai Yunshen technologies Co., Ltd.* , Shanghai
Responsibilities: robotic development
○ Sensor development
  - rt-thread CAN driver implementation for STM32.
  - ultrasonic, anti-colllision, anti-falling sensors development.
  - Sensor's firmware upgrading over CAN method implementation.
○ Robot control system
  - Package ROS running enviroment by docker image.
  - Integrate camera driver and CAN adaptor driver into docker image.
  - ROS nodes for devices and applications implementation.
  - Build system image for x86.
  - Mikrotik router configuration.
  - FOTA function for X86 based controller implementation.
○ System management
  - Docker registry server.
  - LDAP, Git, gerrit, vpn and jenkins server construction and management.
  - QoS configuration for ROS(Router Operating System).

2016.07 – 2018.05 **Senior Embeded Software Engineer**, *Shanghai clever mrobot technologies Co., Ltd.* , Shanghai
Responsibilities: Robotic development
○ Android driver development
- Rockwell 3288 BSP development.
- System stability and charging system optimization.
○ Robot control system
- Robot control system redesign.
- Construct newly robot control system by ROS(Robot Operating System).
- Porting robot control system from x86 to Nvidia TX1. Integrate OpenCV support into ROS.

2010.06 – 2016.06 **Embeded Software Engineer**, *Shanghai Phicomm. Inc.*, Shanghai
Responsibilities: Mobile phone development
○ Android Smartphone project
- On Marvell PXA968 platform. Sensor driver and PMIC driver development.
- Qualcomm MSM7x27/MSM8x25/MSM8x25Q platform. PMIC module development. Develop environment optimization: geomagnetic debug method optimization, TP fw upgrade method. Dual-way charging method implementationg based on smb358. Batch review tool for gerrit.
- Qualcomm MSM8x10/8x12/8x26/8x16/8994/8909 platform. PMIC module, battery characterization.
- Package all-in-one environment to a single self-uncompressable file for convinient quick setting for newbie developers under windows and linux.
- Package Android compile environment by docker technic to standardize compile environment.
- Optimize android complilation efficiency by using ditcc and ccache.
○ MStar and MTK feature phone development
- MMI custimization, SP porting for customer.
- Scripting for auto release.

2009.10 – 2010.06 **Embeded software engineer**, *Shanghai iBingo network technology Co., Ltd.*, Shanghai
Responsibilities: Develop dynamic theme and screen saver for feature phone (iShow theme system).
○ Dynamic themes development for feature phone.
- 3X3 style, Ring style theme.
- Ribbon style screensaver.
- Dandelion screensaver which can distinguish between daylight and night.
- Scripting for auto release.
○ Optimize downloading efficiency.

2008.11 – 2009.10 **Embeded Software Engineer**, *Shanghai Dragontec Group*, Shanghai
Responsibilities:Japanese outsourcing job.
○ Digital TV for Hitachi development.
- UI implementation and bug fix.
- Documents composing.
- Coding and testing.
○ System porting from vxworks to Linux.
○ Openvg porting project.
- Port opencv to SuperH platform for Hitachi television project.
- Unit test cases.

2008.06 – 2008.11 **Java Engineer**, *Kyrocera Mita*, Oosaka
Responsibilities: Non-paper solution development for hospital.
○ Controller module, Facade module and Storage module implementation.
○ Documents composing.
○ Coding and testing.

2007.05 – 2008.06 **Embeded Software Engineer**, *Hitachi ICS*, Hitachi
Responsibilities: Development of IVI for Cadillac CTS 08 and 09.
○ iPod support functions development. In charge of maintenance of coreapp task and controller task.
○ Audio file header parser development.
○ Documents composing.

2006.07 – 2007.05 **Java Software Engineer**, *Nanking University Dragontec*, Nanking
Responsibilities: Suntory vending machine online management system development.
○ Constructing sql for operating databases under DB2 and postgresql.
○ Scripting for software release and deployment.
○ Unit test cases.
○ Documents composing.

EDUCATIONAL QUALIFICATIONS

2002.09 – 2006.06   **BA of Traffic engineering**, *Hohai University*, Nanking

LANGUAGE SKILLS

English   CET4   *Normal*
Japanese   *Normal*

TECHNICAL SKILLS AND KNOWLEDGES

■□□□□ basic knowlegde   ■■■■□ deepened expert knowledge
■■□□□ intermediate knowledge, some project experience   ■■■■■ expert/guru
■■■□□ extensive project experience

C	■■■■■		Java	■■□□□
Kernel Driver	■■■■□		RT-Thread	■■■■□
Linux/Unix	■■■■■		Android BSP	■■■■□
Git/Repo	■■■■■		Docker	■■■■□
Bash	■■■■■		Python	■■■□□
Emacs	■■■■■		Vim	■■■□□
LaTeX	■■□□□		Common Lisp	■■□□□
Router Operating System	■■■□□		Robot Operating System	■■■□□

HOBBIES

Reading   Technology, Novell   Sports   Skate Board, F1, Marathon

GRANTED PANTENTS

201510477097.X   一种登录认证方法及系统
201510612722.7   一种扩展移动终端运算能力的系统
201410613796.8   一种移动终端及其虚拟光驱的实现方法
201210368281.7   一种耳机接口装置及基于所述耳机接口装置的控制方法
201510745100.1   一种密钥加密方法及系统、电子设备
201210585845.2   硬件固件独立升级系统及方法
201420615063.3   一种手机进水保护装置
CN201811304800.7A   一种活动区域热力图的生成方法和服务器

MISCELLANOUS

3rd party   **github**
projects   ○ twip: Add proxy support.
            ○ ChinaDNS-C: Fix bug and port to tomato.
            ○ Koreader: Bug fix and compilation speed optimize.
            ○ tmk_keyboard: Add bluetooth support for usb2usb.
            ○ RT Thread: Fix STM32F1 bsp bugs. Write CAN driver for Stm32f4 using hal library.

Own projects **github**

- battery_analyzer: Use spline method to generate battery SOC table.
- vim_configs: Vim configure used for co-workers.
- ChameleonMini-rebooted: Add support for NTAG-213、215、216.
- battery_analyzer: A tool that can auto sampling and calculate SOC table for battery.
- csr_tool: Script which can dump firmware from CSR chips.
- Ultramanmedal: A lua script which can generate tags for zeta ultraman.
- bin2elf: Add elf header for bin file.
- wintoolset: An environment for running script tools under windows.
- trc2asc: Convert trc file which is saved by peak apps to asc file.
- asc2blf: Convert ASC to blf or blf to asc.
- exportdrawio: Export png svg pdf files from a drawio file.
- crackmfkey: Auto download sniff data from chameleon and calcuate keys out.