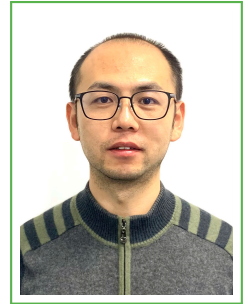# Zhiqiang Xu

Senior software architect

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Last update: 3-21-2022

Work as a hacker. Hack as an artist.

SUMMARY

BA. With 15 years software develop experiences. Especially, 14 years embeded software develop expriences. Including 2yrs on vehicle related projects, 7.5yrs on mobile phone projects, and 3.5yrs on robot related projects.
Excellent in C, bash, linux, rt-thread, version control and docker.
Be familiar with software design, problem solving and debuging skills.
Experiences on refactoring robot control system using ROS and docker technique. Use RTOS to implement STM32 based sensors.
2yrs experiences on team management.

PROFESSIONAL EXPERIENCE

2019.10 – present **Software architect**, *SAIC MAXUS*, Shanghai
Work content: Design software architect for next generation cockpit.
Main work:
- Revision and maintenance on OTA protocol.
- Configure continuous integration services.
- Intelligent cockpit project based on qualcomm 8155. Work on software modules definition and architecture design.

2018.06 – 2019.09 **Senior System architect**, *Shanghai Yunshen technologies Co., Ltd. *, Shanghai
Work content: Develop robotic
Main work:
- Sensor development
  - Implement rt-thread CAN driver for STM32.
  - Develop ultrasonic, anti-colllision, anti-falling sensors using rt-thread and CAN bus.
  - Design firmware update method for sensors through CAN bus.
- Robot control system
  - Use docker image to package ROS enviroment.
  - Integrate camera driver and CAN adaptor driver into docker image.
  - Design and write ROS nodes for devices and applications. And integrate them all.
  - Provide x86 system images for factory producing.
  - Mikrotik router configuration.
  - Use repo command to manage robot softwares.
  - Implement FOTA function for X86 based controller.
- System management
  - Docker registry server.
  - LDAP, Git, gerrit, vpn and jenkins server construction and management.
  - ROS(Router Operating System)'s QoS configuration.

2016.07 – 2018.05 **Senior Embeded Software Engineer**, *Shanghai clever mrobot technologies Co., Ltd.* , Shanghai

Work content: Develop robotic

Main work:

○ Android driver development
  - BSP development based on Rockwell 3288 platform. Especially focus on charging system.
  - System stability optimization.
○ Robot control system
  - Redesign robot control system.
  - Use ROS(Robot Operating System) to construct control system for robotic products.
  - Port robot control system from x86 to Nvidia TX1. And integrate OpenCV support into it.

2010.06 – 2016.06 **Embeded Software Engineer**, *Shanghai Phicomm. Inc.*, Shanghai

Work content: Develop mobile phone

Main work:

○ Android Smartphone project
  - Develop on Marvell PXA968 platform. Sensors' and PMIC's drivers.
  - Qualcomm MSM7x27/MSM8x25/MSM8x25Q platform. PMIC module, develop enviroment optimization. Mainly, PMIC module development, geomagnetic debug method optimization, TP fw upgrade method and dual-way charging method based on smb358. Batch review tool for gerrit.
  - Qualcomm MSM8x10/8x12/8x26/8x16/8994/8909 platform. PMIC module, battery charactorization.
○ MStar and MTK feature phone project
  - MMI custimization, add SP for customer.
  - Write auto release script.

2009.10 – 2010.06 **Embeded software engineer**, *Shanghai iBingo network technology Co., Ltd.*, Shanghai

Work content: Develop dynamic theme and screen saver for feature phone (iShow theme system).

Main work:

○ Develop dynamic themes for feature phone base on MTK platform.
  - 3X3 style, Ring style theme.
  - Ribbon style screensaver.
  - Dandelion screensaver which can distinction between day and light.
  - Auto release script.
○ Optimize downloading efficiency.

2008.11 – 2009.10 **Embeded Software Engineer**, *Shanghai Dragontec Group*, Shanghai

Work content:Japanese outsourcing job.

Main work:

○ Develop digital TV for Hitachi.
  - Implement UI and fix bug.
  - Write documents.
  - Code and test.
○ System port from vxworks to Linux. Develop enviroment improvement.
○ Openvg port project.
  - Port opencv support to SuperH platform for Hitachi television project.
  - Write unit test cases.

2008.06 – 2008.11 **Java Engineer**, *Kyrocera Mita*, Oosaka

Work content: Develop non-paper solution for hospital.

Main work:

○ Work for implementing Controller, Facade and Storage modules.
○ Write documents.
○ Code and test.

2007.05 – 2008.06 **Embeded Software Engineer**, *Hitachi ICS*, Hitachi

Work content: Develop IVI for Cadillac CTS 08 and 09.

Main work:

○ Implement t-engine's tasks for iPod interface and control system.
○ Parser for audio files.
○ Write documents.

2006.07 – 2007.05 **Java Software Engineer,** *Nanking University Dragontec*, Nanking
Work content:Develop online management system for suntory's vending machines.
Main work:
○ Write sql for DB2 and postgresql.
○ Write scripts for software release and deployment.
○ Write unit test cases.
○ Write documents.

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

○ 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.
○ battery_analyzer: Use spline 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.