尚祚彦 | Roy(Zuoyan)Shang
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Self-assessment

- Proficient in C, C++, C#, Java, Python and LaTeX programming languages.
- Familiar with TCP/IP protocols, network programming, and proficient in design patterns.
- Familiar with Qualcomm/ Mediatek/ NXP/ HiSilicon/ UniSoC/ Rockchip/ Horizon/ BlackSesame, Xilinx and Renesas platforms.
- Familiar with Linux/ Android/ Redhat/ Tizen/ FFOS systems.
- Familiar with prevailing RTOS(FreeRTOS/ RT-Thread/ Nucleus) and microkernel(SeL4/ L4Re/ HelenOS).
- Good system architecture design ability and embedded system programming development experience.
- Proficent English level, strong communication skills, and overseas work experience.
- Sincere, practical, hardworking, strong learning ability, and teamwork spirit.
- Healthy, cheerful, and responsible.

Currently working for CAIC.

Education

2006.09-2009.06 Cartography and Geographic Information Systems (Master of Science)
School of Geographical Sciences, Nanjing Normal University

1999.09-2003.07 Industrial Design Engineering (Bachelor of Engineering)
School of Mechanical Engineering, Jiangsu University

Work Experience

2021.06-present **Manager of Basic S/W Dept. / Operating System Specialist**
China Automotive Innovation Corperation,.Ltd[CAIC]
Basic Software Dept., Intelligent Connected Business Unit

- **Responsible for the design and development work of the operating system, including:**
  CAIC OS, CAIC Hybrid OS, CAIC Hypervisor, CAIC Hypervisor Light, and etc.
  The system porting works for the NXP i.MX8QM/ TI TDA4/ MTK8675 platforms.
  Accomplish the functional safety ISO 26262 certification for the CAIC OS and Hypervisor.
- **Some joint research and development projects:**
  Responsible for the Siemens/ Mentor Graphics Nucleus operating system cooperative project;
  Responsible for the Zlingsmart Raite Hypervisor cooperative project;
  Responsible for the lightweight virtualization system project for Renesas RH850/ U2A/ U2B;
  Responsible for the Zonal architecture AUTOSAR CP system on the lightweight virtualization solution;
  Responsible for the Horizon Robot J3/J5 assisted automatic driving operating system cooperative project.

2017.10-2021.01 **Specialized Manager of Wireless and Protocol Dept.**
FIH Communications(Nanjing) Co., Ltd
Nanjing R&D Center, IDM Business Unit

- **Internal projects:**
  Responsible for the system porting, development, and certification works of Sharp(SG1/HD1/VGO/VG2) and Nokia(ROO/TAS) projects.
  Proficient in subsystems and modules such as WLAN/ Bluetooth/ FM/ GNSS, NFC/ Felica, IR, etc.

Participated in the Apple ICAR Connectivity interactive scenarios project.
Participated in the joint research and development works of Byton smart cockpit.

- **Outsourcing projects:**
  Responsible for the system porting, development, and certification works of the Vivo Khronos, Xiaomi D1S OTA/ J15s and LG DH0 projects.

2016.01-2017.10 S/W Specialist->Director of Terminal OS Dept.
Jiangsu HopeRun Software Co., Ltd
Terminal OS Dept., Intelligent Terminal Business Unit

- **Take over the AtelierOS project of Euler Laboratory in Huawei Central Software Institute:**
  AtelierOS is a virtual container based on the L4 microkernel, on which multiple operating systems can be deployed and up and running with seamless switching.
  Responsible for the overall system architecture design and implementation, and porting to the Huawei Mate series smartphones.
- **Take over the Texas AT&T project of Huawei Terminal Company:**
  Based on the Qualcomm MSM8939 platform, as the project technical leader, responsible for system bringup, certification, and problem tracking.
- **Take over the VR project of Huawei Terminal Company:**
  Responsible for the system architecture and design of the project.
  Responsible for the development and coding works of key subsystems.
  Based on the restructured gSOAP ONVIF services, the inter-process communication service based on LibEvent, and the DAL encapsulation based on SQLite.
- **Take over the Smart Watch Turnkey project of ClouderSemi Company:**
  Responsible for the system architecture and design of the project.
  Responsible for the development and coding works of the system framework based on Bluetooth.
  Based on the private protocols of signaling interaction of Bluetooth LE, the transmission services based on Bluetooth RF-COMM, and the audio services of Bluetooth HFP/A2DP.

2013.05-2016.01 Principal S/W Engineer->Manager of Wireless Dept.
Yulong Computer Telecommunication Scientific(Shenzhen) Co., Ltd
The 52rd Dept., Nanjing R&D Center

- **Coolpad overseas market products**
  Fully responsible for the connectivity related modules:
  WCN: Bringup the integrated WLAN/Bluetooth/FM combo chips(WCN36X{1/2/6}0).
  Bugshoot the issues of the certification tests, such as WFA/BQB, BT-IOT, and etc.
  Discuss the requirements with overseas operators, and analyze the field testing problems rapidly.
  GNSS: Configuration of WTR1605L/ WTR4905 Transceiver, SKY65611-11 PA/ eLNA chips.
  Solving problems in AGPS testing and SUPL1.1/ 2.0 certification testing.
  NFC: Bringup the NXP PN544/PN547 chips, driver debugging, NFC protocol stack upgrade, SmartCard solution integration, EMVCo2.3.3 certification, and support for VISA/ MASTERCARD/ AMEX payment.
  IR: Bringup the ABOV MC96FR116CU chips, and driver debugging.
  Finish the development works of new requirements of TMO operators, including DeviceReporting, HW Encyption, Anti-theft Feature, and etc.
- **Related platforms involved are as follows:**
  MSM8926 (Vodafone Smart 4 Max)
  MSM8916 (Panasonic ELUGA L 4G)
  MSM8909 (China Mobile Y75)
  MSM8939 (Qikoo), etc.

2009.10-2013.05 **Sr. S/W Engineer->Manager of S/W Dept.**

TeleEpoch Co., Ltd Software Dept., Nanjing R&D Center

- **Qualcomm AMSS8960/AMSS8625 projects:**
  Responsible for the modem side software, and undertake the implementation of the telephony-related code in the Android Framework/RIL and QCRIL layers.
- **Qualcomm AMSS7627 F3610/F3611 projects:**
  Responsible for the modem side software, Responsible for the related code implementation in the Android Framework/RIL and QCRIL layers, and responsible for the IOT Level2 test (Fort Worth, Texas, Motorola network laboratory).
- **Qualcomm QSC6085 CDMA 1x EVDO M600 project:**
  Responsible for the MMS, WAP browser, and WWW (Full HTML) browser modules, and was responsible for the MMS/WAP IOT test (Fort Worth, Texas, Motorola network laboratory), and discussed functional requirements and technical support matters with PCD, UMX, and US Cellular.
- **Qualcomm QSC6055 CDMA 1x WMDP project:**
  Responsible for the application modules of automatic speech recognition [ASR] (iFlyTek/ VoiceSignal Tech), and gravity sensor [G-Sensor]. Exhibited at CES2010 and the Asia Telecom Exhibition.
- **Qualcomm QSC6270 GSM/WCDMA(DSDS) projects:**
  Undertake the low-level driver works, including:
  ① FLASH driver (Micron/ Hynix).
  ② LCD/ MDP driver (Sunrise/ Truly, IC: TM2.0/3.55 ILI9341/9225/9225G HX8340B/8347D).
  ③ T9/ QWERTY keyboard driver.
  ④ HALL device flip device driver.
  Undertake the underlying implementation works of GSDI dual-card support.
  Undertake the works of the OEM interface layer and the application layer.
  Responsible for the modules such as: SMS (GSM 03.38/ 03.40/ 07.05), MMS (TS23.140/ OMA), STK (GSM 11.14), SIM card (TS 31.102), Bluetooth, Brew JavaVM, WWW (Full HTML) browser, Multimedia, and Input Method Engine.
- **Qualcomm MDM6085 CDMA 1x EVDO D2/D3/D5 data card projects:**
  Responsible for the development and debugging tasks of the lower computer AT commands and the upper computer synchronization and dialing software.

2006.07-2009.05 **Graduated Student**

National Key Laboratory of Virtual Geographic Environment[VGEKL]

Ministry of Education + Nanjing Normal University (NJNU)

- **Research on the key technologies of 3D GIS for space entities based on the non-manifold theory**
  Project Number: 2007AA12Z236 [National 863 Project][2007.11-2009.05]
  Engaged in the researchs of:
  ①3D GIS framework based on OSGi RCP.
  ②Spatial data indexing: the general search tree GiST, Space Index Library, and hybrid index OR-tree.
  ③Data visualization: Open Inventor, IRRLicht, OSG, Coin3D.
  Responsible for the development tasks of the prototype system.
- **Research on the key technologies for the copyright protection of GIS vector data products**
  Project Number: 2006AA12Z222 [National 863 Project][2006.10-2007.03]
  Engaged in the researchs of:
  ①pseudo-random sequences: M-sequence, golden sequence, and chaotic sequence.
  ②watermark embedding and extraction.
  ③wavelet decomposition and reconstruction.
  Engaged in the algorithm implementation of watermark embedding in and extraction from high-dimensional space data, and participated in the development tasks of the prototype system.

2003.10-2006.08 **S/W Engineer**

AMOI Electronics Co., Ltd Communication Dept., Nanjing Research Institute

- **Related platforms and operating systems:**
  Spreadtrum platform, X-Thread RTOS.

QUALCOMM platform, REX OS/ BREW/ BREWMP systems.
TOSHIBA platform, ITRON system.

- **Responsibilities in the project:**
  Mainly responsible for the software development tasks of the PHS and SMARTPHONE.
  MMI driver, LCD driver, functional business modules(PIM/PIN, PHONEBOOK, and SCHEDULE), and application programs.
  Accumulated rich project development experience, became familiar with the protocols and file structure of PIM, and had an in-depth understanding of the ITRON system.
  And served as the software group leader in the PHS S368 project.

PUBLICATIONS AND COMMITMENTS

Co-author of 3 publications

[1] Xu H, Lu G, Sheng Y, Guo F, **Shang Z**.3D GIS spatial operation based on extended Euler operators[J]. Proceedings of SPIE - The International Society for Optical Engineering, 2008, 7143:71433D-71433D-10. DOI:10.1117/12.812655.

[2] **尚祚彦**.3D GIS 混合空间索引技术研究 [D]. 南京师范大学,2009.DOI:10.7666/d.d183065.

[3] 张璐, 柴燕妮, 王丹, **尚祚彦**. 基于地理国情的县域生态环境质量评价研究 [J]. 地理空间信息, 2022, 20(10):79-81.

Co-inventor of 5 patents

Patent Number	Patent Description	Publication Date
[CN115480934A]	专利一种分布式数据处理的方法、装置、设备及储存介质	2022/12/16
[CN114153560A]	专利一种虚拟中断处理方法、装置、设备及介质	2022/03/08
[CN114579556A]	专利一种数据处理方法、装置、设备及存储介质	2022/06/03
[CN114579556B]	专利一种数据处理方法、装置、设备及存储介质	2022/08/02
[CN114298990A]	专利一种车载摄像装置的检测方法、装置、存储介质及车辆	2022/04/08
[CN114500408A]	专利一种以太网络交换装置、数据处理装置和车辆	2022/05/13