Xugui ZHOU

Phone: (+1) 434-328-9542 Email:xz6cz@virginia.edu

EDUCATIONAL BACKGROUND

University of Virginia, Charlottesville, Virginia, US Jan. 2019 - Recent

Ph.D. Student in Electrical and Engineering

Shandong University, Jinan, Shandong, China Sept. 2012- Jul. 2015

Master of Engineering in Control Science and Engineering

Shandong University, Jinan, Shandong, China Sept. 2008 - Jul. 2012

Bachelor of Engineering in Automation

PUBLICATION & PATENT

- **Xugui Zhou**, *The Development of Intelligent Household Ventilator Based on Remote Digital Transmission Technology*, Shandong University, 2015
- **Xugui Zhou**, Feng Cha, *The Design and Application of CAN/RS232 Conversion Board Based on STM32F103 Chip*, Industrial Control Computer, 2014(5):49-50
- **Xugui Zhou**, Shengxin Zhang, Yanjie Li, Feng Cha, *Development and Application of TCP/IP Communication Test Tool*, Industrial Control Computer, 2014, 27 (2) :34-35
- **Xugui Zhou**, Shengxin Zhang, Yanjie Li, Feng Cha, *Development and Application of TCP/IP Protocol Stack in DCS Master Station* , Smart Factory, 2014, (1) :71-74
- **An Intelligent Household System (Patent No.: ZL 2013 2 0043015.7)**
- **A Method to Receive Indefinite Length Serial Packets by DMA (Patent No.: ZL 2018 1 0119917.1)**
- **A Debugging Method and Device for A Variety of CPU Plug-ins (Patent No.: ZL 2018 1 1341241.1)**

RESEARCH EXPERIENCES

Dependable System Analytics

Supervisor: Homa Alemzadeh Jan 2019 - Recent

- Research Assistant
  - Strategic Fault Injection for Safety Validation in CPS

Development of Smart Household Ventilator Based on Remote Digital Transmission Technology

Supervisor: Professor Zhengjun Li Jul. 2013 - Jul. 2015

- Responsible for overall project planning, software design, hardware implementation and testing
- Developed a smart breathing machine using 32-bit embedded controller as the core, combined with modern electronic measurement technology, intelligent control technology, fluid mechanics, and respiratory mechanics to treat sleep apnea syndrome, chronic obstruction lung disease and other diseases
- Developed a smartphone data acquisition and communication system based on Android system
- Built the health information management system of the internet of things and cloud platform to achieve two-way remote monitoring and service between patients and doctors, and medical institutions
- Accomplishment: Prototype development has been completed and clinical testing is underway.

Development of Smart Power Network Instrument based on STM32 Chip

Supervisor: Professor Zhengjun Li Jun. 2012 - Jun. 2013

- Investigated the application of STM32 chip in remote control of power devices

- Developed a smart network instrument to monitor and remotely control parameters of field power devices
- Accomplishment: This instrument has been turned into a product and listed on the market.

Development of TCP/IP Protocol Stack in DCS Master Station

Supervisor: Professor Zhengjun Li Jan. 2012 - May. 2012

- Investigated the characteristics of embedded system and the difficulty of transplanting traditional TCP/IP protocol to embedded system
- Developed a portable TCP/IP protocol stack that enables remote data collection and monitoring of control stations

Development of Smart Home System based on Hongjing 51 Single Chip Micyoco

Supervisor: Professor Guiyou Chen, Group leader Mar. 2011 - May. 2011

- Applied the learned SCM knowledge and technology to practical design by developing a smart home system which has the simple, stable, reliable and low cost characteristics
- Achievement: This design was awarded the second prize in University single chip application contest.

WORK EXPERIENCE

Research Institute of NR Electric Co., Ltd., State Grid, Nanjing Jul 2015 – Jan 2019

Software and Hardware Engineer

Design of a new generation of Control & Protection Device based on SAME54

- Managed the product development and coordinated the cooperation of various teams
- Conducted the chip performance evaluation and product molding
- Oversaw hardware design, underlying driver and platform system library development, and product testing and certification

Investigation of RFID/NFC Technology based on MSP430F5529 and TRF7970A

- Realized the functions of RFID/NFC reader, P2P peer to peer, and card emulation
- Achieved stable and reliable near-field data transmission, and good interactive performance with the maximum transmission rate of 848kbps

Investigation of CAN-FD Technology based on NXPS32K144 Chip

- Formulated project schedules, tracked project progress, and wrote project reports
- Improved the traditional CAN 2.0B transmission rate and length restrictions

EXTRACURRICULAR ACTIVITIES

Network Management Center, Shandong University Jul. 2012 - Jul. 2015

- Assisted school teachers and students with problems of Internet access and equipment repair
- Acquired plenty of knowledge and technology related to network
- Awarded as the Outstanding Member of the center

HONORS & SKILLS

National Outstanding Scholarship 2014

Second Prize of “Hongjing Cup” SCM application Technology Contest, Shandong University 2011

Second & Third Prize of University Outstanding Student Scholarship for 4 consecutive years 2009-2012

Honor of Excellent Student Cadre, Shandong University 2010

SKILLS: C, C++, Python, Avr-ASM, Linux**,** μC/OS-II**,** TCP/IP, CAN, VC++, Keil-MDK, CCStudio, Protel-99SE, Altium Designer, Matlab, AutoCAD