Jian-Yu Niu, Northwestern Polytechnical University , Spring 2016

CONTACT INFORMATION

Communication Engineering & Signal System
Northwestern Polytechnical University
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RESEARCH INTERESTS

Focus on directional media access control protocol(DMAC), wireless sensor network, computer network(TCP/IP ARP), FPGA Verilog Design, Embedded System, Delay Tolerance Network(DTN), Network on Chip(NOC), Bluetooth/Zigbee/Wifi RF device.etc

EDUCATION

Northwestern Polytechnical University, Shannxi Xián
Master's Degree Communication Engineering & Signal System
First Year GPA: 89.1/100; expected graduation date: April 2017

Northwestern Polytechnical University, Shannxi Xián
Undergraduate's Degree Communication Engineering, September, 2010
Cumulative Average: 87.4/100, Rank: 7/93;

PUBLICATION

Conference Paper

[1]Niu J, Zhang R, Wang G, et al. Design and experimental evaluation of long-distance and high-mobility ZigBee transceivers for WSNs[C] Communications in China - Workshops (CIC/ICCC), 2013 IEEE/CIC International Conference on. IEEE, 2013:142-147.

[2]Niu J, Zhang R, Cai L, et al. A fully-distributed directional-to-directional MAC protocol for mobile ad hoc networks[C] 2015 International Conference on Computing, Networking and Communications (ICNC). IEEE Computer Society, 2015:766-770.

PATENT

[1]A adaptive anti-interference and automatic decision wireless communications platforms of multi-rate, Chinese patent, CN104967969A.

HONORS AND AWARDS

2014-2015 National Scholarship NWPU(top %4 department Wide)
The First Prize Scholarship NWPU(top %10 department Wide)
Second Prize of 10th National Graduate Electronic Design Contest
Third Prize of National Internet of Things Competition
Third Prize of 9th National Graduate Electronic Design Contest
Third Prize of National Undergraduate Electronic Design Contest

2010-2014 School-level key Graduation Project, Excellent graduates Honor, NWPU
First Prize of Shaanxi Advanced Mathematics Contest
The First Prize Scholarship(Three Times), NWPU
National Encouragement scholarship(Twice), NWPU
Shaanxi Fashite Gear Co., Ltd Scholarship, NWPU

PROFESSIONAL ACTIVITIES

Attend ICNC'2015 conference & given oral presentation, in Anaheim, California
Multiple reviewing related papers, focus on MAC design, router protocol, Wireless network security , Wlan Qos, WSN

PROJECT EXPERIENCE

Tutor's National 863 project From 2013 by Now

Project aimed at designing a hardware platform, which combined multiple wireless transmission technologies used in micro-nano satellite, including digital circuit design, PCB design, FPGA verilog design, Matlab simulation, related test and design of UHF/Zigbee/WIFI RF device, etc.

- Design PCB Schematic in Altium Designer software, involved the power module design, FPGA circuit design, etc
- Used verilog language to realize the CCSDS remote measure and control system
- Master Matlab platform to simulate the wireless network protocol and to test transmission bit error rate of the wireless device.

Personal Academic Project 1 From 2014 by Now

The academic research is mainly about the media access control(MAC) using the directional antenna in the wireless Ad Hoc network. The proposed protocol and related achievement has been published in the ICNC 2015 international conference. I still do the research recently, and mainly want to adopt the directional MAC protocol in 3-dimensional wireless Ad Hoc network.

- The research involves the 802.11b protocol, CSMA/CA, directional antenna, etc. The whole simulation is verified on the OPNET platform.

Personal Academic Project 2 Winter 2015

The academic research is related about the delay tolerance network(DTN) of satellite. First I design the satellite orbit in STK software. Then I import the related orbit parameters into OPNET platform. I proposed the mixture route of the traditional epidemic and prophet route strategies. The simulation part has proven the better performance of the proposed route protocol.

- The research involves the delay tolerance network(DTN), epidemic route, prophet route etc. The whole simulation is verified on the OPNET platform.

National Graduate Electronic Design Contest Fall 2015

Project aimed at designing a hardware platform, which can provide a camera matrix of 4*4 to take image data simultaneously. What's more, the image data has to be stored in the memory chips and be exported for image processing. The project including PCB design, FPGA verilog design, embedded device, etc.

- Charge in digital circuit design, PCB design, digital circuit test.

PROFESSIONAL SKILLS

Simulation & Others:
Skilled in OPNET & Matlab platform for discreet event simulation, known at Omnet++, Ns3
Languages & Software:
Skilled in C, Matlab Script Language and GUI design, master C++, Python, C#, Linux Shell Language
Hardware Design:
Skilled in digital circuit design,FPGA Verilog Design, PCB design, Embedded System