

Yizirui Zhou

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RESEARCH INTERESTS

Mobile Computing, Wireless Networking, Distributed Systems

EDUCATION

University of Chinese Academy of Sciences

M.Sc, Computer Architecture

Major GPA: 90.3, Adviser: Prof. Min Liu

Beijing

09/2012–present

Xidian University

B.Eng, Computer Science and Technology

Major GPA: 88.1, Ranking: 2/257

Xi'an

09/2008–07/2012

WORK EXPERIENCES

Institute of Computing Technology, Chinese Academy of Sciences

Research Assistant

Beijing

6/2013–Present

- Study of Wireless Networks:
 - Studied the rate adaptation mechanisms in wireless networks
 - Explored the user selection algorithms in multiuser-MIMO (MU-MIMO) wireless networks
- Application development:
 - Developed and maintained a software defined radio (SDR) system (C++, Python, Shell)
 - Developed mobile applications (JAVA, C++)
 - Wrote technology and management documents

RESEARCH/PROJECT EXPERIENCES

Routing algorithms in Delay Tolerant Networks (DTNs)

Researcher

Undergraduate Thesis

2/2012–6/2012

- Routing Algorithms in DTNs
 - Studied the state-of-the-art routing algorithms in Delay Tolerant Networks (DTNs)
 - Proposed a dynamic utility evaluation algorithm to adapt to the change of user's motion model

Network Sniffer

Developer

Open Source Software

1/2013–4/2013

- Network Sniffer
 - Built a network sniffer based on SWT framework and Jpcap library in JAVA
 - Analyzed the common network protocols including ARP, IP, ICMP, IGMP, TCP, UDP, HTTP, DNS, etc
 - Utilized the sniffer to diagnose network fault

Rateless Coding in Wireless Network

Researcher

National Science Foundation of China

6/2013–12/2013

- Rateless Coding:
 - Studied the state-of-the-art Spinal and Strider rateless coding
 - Built emulation platform to evaluate the performance of rateless coding
 - Ameliorated the encoding and decoding procedure in Strider, propose a channel adaptation algorithm to improve Strider's performance in OFDM channels

Software Defined Radio Platform

Developer

National Science Foundation of China

6/2013–1/2014

- Software Defined Radio
 - Developed and maintained a SDR platform based on GNU Radio and USRP
 - Designed and built C++ blocks, including frame encapsulation/analysis, coding/decoding, modulation/demodulation, etc
 - Built Python scripts to construct the C++ blocks and make corresponding QA tests

User Selection in MU-MIMO WLAN

National Science Foundation of China

Researcher

3/2014–Present

- User Selection Algorithms:
 - Studied the user selection algorithms in MU-MIMO WLAN
 - Built non-linear multiple objectives optimization model to optimize both the network throughput and user equity
 - Decomposed the complex global optimization problem into a multi-step local optimization problem
 - Proposed an approximation algorithm named GreedyMax to reduce the computational complexity

Mobile Development

Open Source Software

Developer

1/2014–6/2014

- Mobile Application Development:
 - Developed Android apps within mobile development framework in JAVA
 - Built cross-platform mobile games based on Cocos2dx framework in C++
 - Read source codes of mobile platform libraries

PUBLICATIONS

- **Yizirui Zhou**, Anfu Zhou, and Min Liu, "OUS: Optimal User Selection in MU-MIMO WLAN", Submitted to *IEEE Symposium on Computers and Communications (IEEE ISCC)*, 2015

PATENTS

- **Yizirui Zhou**, Shuang Chen, Anfu Zhou, and Min Liu, "A new adaptation method in TCP keepalive mechanism", CN201310610828, State Intellectual Property Office of the P.R.C, 2013
- **Yizirui Zhou**, Anfu Zhou, and Min Liu, "A new user scheduling mechanism in MU-MIMO WLAN", CN201410303039, State Intellectual Property Office of the P.R.C, 2014

HONORS

- National Scholarship (1%), Ministry of Education of China, 2009
- Scholarship for Academic Excellence (1st level), Xidian University, 2010
- Scholarship for Academic Excellence (2nd level), Xidian University, 2009
- Scholarship for Academic Excellence (2nd level), Xidian University, 2011
- First prize in Mathematical Modeling competition, Xidian University, 2010
- Third prize in ACM/ICPC programming competition, Xidian University, 2010
- Merit Student (5%), Xidian University, 2011

TECHNICAL SKILLS

Languages: C++, JAVA, Python, Lua, Shell

Frameworks: Linux development, Mobile development

Tools: Xcode, Vim, Eclipse, KDevelop, Git, Visual Studio, Matlab, Latex

LANGUAGES

Mandarin: Native proficiency

Native

English: Professional working proficiency

TOEFL: 101 (R28 L25 S23 W25)