

# Yizirui Zhou

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## Research Interests

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Mobile Computing, Wireless Networks, Distributed Systems

## Education

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### 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

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### Institute of Computing Technology, Chinese Academy of Sciences

*Research Assistant*

**Beijing**

*6/2013–Present*

- Study of Wireless Networks:
  - Study the rate adaptation mechanisms in wireless networks
  - Explore the scheduling algorithms in Multiuser-MIMO (MU-MIMO) wireless networks
- Application development:
  - Developed and maintained a distributed wireless network system (C++, Python, Shell)
  - Developed Android applications (JAVA, C++)
  - Wrote technology and management documents

## Research/Project Experiences

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### Network Sniffer

*Developer*

**Open Source**

*1/2013–4/2013*

- Network Sniffer
  - Build a network sniffer based on SWT framework in JAVA
  - Analyze the common network protocols including ARP, IP, ICMP, IGMP, TCP, UDP, HTTP, DNS, etc
  - Utilize the sniffer to diagnose the network fault

### Rateless Coding in wireless network

*Researcher*

**National Science Foundation of China**

*6/2013–12/2013*

- Rateless Coding:
  - Study the state-of-the-art Spinal and Strider rateless coding
  - Build emulation platform to evaluate the performance of rateless coding
  - Ameliorate 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
  - Design and build C++ blocks, including frame encapsulation/analysis, coding/decoding, modulation/demodulation, etc
  - Build Python scripts to construct the blocks and test the function of them

## User Selection in MU-MIMO WLAN

Researcher

National Science Foundation of China

3/2014–Present

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

## Mobile Developing

Developer

Open Source

1/2014–6/2014

- Mobile APPs developing:
  - Be familiar with Mobile(Android/iOS) developing environment, developed Android apps
  - Build cross-platform mobile games based on Cocos2dx framework
  - Read source codes of mobile platform library, including Cocos2dx, OpenGL and Webkit

## Publications

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- **Yizirui Zhou**, Anfu Zhou, Min Liu, "OUS: Optimal User Selection in MU-MIMO WLAN", Submitted to International Conference on Communications (*IEEE ICC*), 2015

## Patents

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- **Yizirui Zhou**, Shuang Chen, Anfu Zhou, 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, Min Liu, "User Scheduling mechanism in MU-MIMO WLAN", CN201410303039, State Intellectual Property Office of the P.R.C, 2014

## Honors

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- 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, Xidian University, 2011

## Technical Skills

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

**Frameworks:** Linux development, Mobile development

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

## Languages

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**Mandarin:** Native proficiency

Native

**English:** Professional working proficiency

TOEFL: 101 (R28 L25 S23 W25)