Yizirui Zhou

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Research Interests

Mobile Computing, Wireless Networks, Distributed Systems

Education

University of Chinese Academy of Sciences **Beijing**
M.Sc, Computer Architecture *09/2012–present*
Major GPA: 90.3, Adviser: Prof. Min Liu

Xidian University **Xi'an**
B.Eng, Computer Science and Technology *09/2008–07/2012*
Major GPA: 88.1, Ranking: 2/257

Work Experiences

Institute of Computing Technology, Chinese Academy of Sciences **Beijing**
Research Assistant *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

Network Sniffer **Open Source**
Developer *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 **National Science Foundation of China**
Researcher *6/2013–12/2013*

- Rateless Coding:
  - Study the state-of-the-art Spinal and Strider rateless coding
  - Build emulation platform to evalute 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 **National Science Foundation of China**
Developer *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 **National Science Foundation of China**

Researcher *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 **Open Source**

Developer *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

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

Patents

- **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

- 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

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

Frameworks: Linux development, Mobile development

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

Languages

Mandarin: Native proficiency *Native*

English: Professional working proficiency *TOEFL: 101 (R28 L25 S23 W25)*