Yizirui Zhou

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RESEARCH INTERESTS

Mobile Computing, Wireless Networking, 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:
  - 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) **Undergraduate Thesis**
Researcher *2/2012–6/2012*

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

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

- Rateless Coding:
  - Studied the state-of-the-art Spinal and Strider rateless coding
  - Built emulation platform to evalute 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 **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
  - 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 International Conference on Communications (IEEE ICC)*, 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)*