

Ying Zhu

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Qualification Highlights:

- Proficient in C and Matlab.
- Familiar with C++ and NS2.
- Extensive hands-on experience in using C/Matlab to implement and evaluate the algorithms designed for wireless networks.
- Familiar with computer network protocols such as HTTP, SMTP, DNS, UDP, TCP/IP, etc.
- Solid academic background in design and analysis of networking protocols and algorithms for wireless networks, including wireless sensor networks, heterogeneous wireless networks and delay tolerant networks (DTNs).

Skills:

- Programming Languages: C, Perl, Matlab, C++, NS2
- Operating Systems: Unix/Linux, Windows

Education:

Ph.D. student in Computer Science

University of North Carolina at Charlotte

Jan. 2010- Dec. 2013

(GPA: 4/4)

M.S. and B.S. in Electronic Engineering

University of Electronic Science and Technology of China

Sep. 1998- June 2005

(GPA: 3.5/4)

Experience:

Graduate Research Assistant

01/2010~Current

Networking Research Group, University of North Carolina at Charlotte, Charlotte, NC, Advisor: Yu Wang

- Conducted research on algorithm design and analysis for wireless networks.
- Proposed several social-based routing algorithms for Delay Tolerant Networks.
- Analyzed big data from [Mobile Data Challenge 2012](#) (by Nokia).
- Implemented a design platform for social-based routing algorithm analysis, which can extract social features of mobile social networks and pocket switched networks from real Wi-Fi/Bluetooth/GPS trace. **(C/Perl)**
- Designed a platform to implement two energy-efficient topology control algorithms in cooperative Ad Hoc networks and compare their performance. **(C)**
- Implemented a research platform to study the trade-off between relay nodes placement and energy saving in wireless sensor networks. **(Matlab)**

Graduate Research Assistant

07/2002~08/2005

Control Research Center, UESTC, Chengdu, China, Advisor: Hongbing Xu

- Conducted research on topology control algorithm of heterogeneous sensor networks. **(C/Matlab)**

Selected Publications:

Book Chapter:

- [B1] **Y. Zhu** and Y. Wang, "Social-based Routing Protocols in Opportunistic Networks", in *Routing in Opportunistic Networks*, Springer, to appear.

Journal Papers:

- [J1] **Y. Zhu**, B. Xu, X. Shi, and Y. Wang, "A Survey of Social-based Routing in Delay Tolerant Networks: Positive and Negative Social Effects," *IEEE Communications Surveys and Tutorials*, to appear.
- [J2] **Y. Zhu**, M. Huang, S. Chen, and Y. Wang, "Energy-Efficient Topology Control in Cooperative Ad Hoc Networks," *IEEE Transactions on Parallel and Distributed Systems*, vol. 23, no. 8, pp. 1480-1491, Aug. 2012.
- [J3] M. Huang, S. Chen, **Y. Zhu**, and Y. Wang, "Topology Control for Time-Evolving and Predictable Delay-Tolerant Networks," *IEEE Transactions on Computers*, to appear.
- [J4] S. Chen, Y. Li, M. Huang, **Y. Zhu**, and Y. Wang, "Energy-Balanced Cooperative Routing in Multi hop Wireless Networks," *ACM Springer Wireless Networks*, to appear.

Conference Papers:

- [C1] **Y. Zhu**, M. Huang, S. Chen, and Y. Wang, "Cooperative Energy Spanners: Energy-Efficient Topology Control in Cooperative Ad Hoc Networks," in *Proc. IEEE INFOCOM*, Shanghai, China, Apr. 2011.
- [C2] **Y. Zhu**, Y. Sun, and Y. Wang, "Nokia Mobile Data Challenge: Predicting Semantic Place and Next Place via Mobile Data," in *Proc. Mobile Data Challenge 2012 (by Nokia) Workshop*, Newcastle, UK, June 2012.
- [C3] S. Chen, M. Huang, Yang Li, **Y. Zhu**, and Y. Wang, "Energy-Balanced Cooperative Routing in Multihop Wireless Ad Hoc Networks," in *Proc. IEEE ICC*, Ottawa, Canada, June 2012.
- [C4] M. Huang, S. Chen, **Y. Zhu**, Bin Xu, and Y. Wang, "Topology Control for Time-Evolving and Predictable Delay-Tolerant Networks," in *Proc. IEEE MASS*, Valencia, Spain, Oct. 2011.
- [C5] M. Huang, S. Chen, **Y. Zhu**, and Y. Wang, "Cost-Efficient Topology Design Problem in Time-Evolving Delay-Tolerant Networks," in *Proc. IEEE GLOBECOM*, Miami, Florida, Dec. 2010.
- [C6] **Y. Zhu**, Q. Han, "The More Relay Nodes, The More Energy Efficient?" in *Proc. IEEE EUC*, Vancouver, Canada, Aug. 2009.
- [C7] **Y. Zhu**, H. Xu and J. Xiao, "A Clustering Topology Control Algorithms For Heterogeneous Wireless Sensor Network," in *Proc. IEEE ICCAS*, Hong Kong, May 2005.

Course Profile:

Algorithms & Data Structures, Advanced Networking Protocols, Model & Analysis of Communication Networks, Computer Communication & Networks, Linear System Theory, Optimized Method, Principle and Control of Intelligence Robot, Neural Network and Pattern Recognition, Modern Signal Processing, Matrix Theory