Xiaomei Zhang, PhD

Assistant Professor of Computational Science
University of South Carolina Beaufort

CONTACT INFORMATION

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Bluffton, South Carolina, 29909

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APPOINTMENT

University of South Carolina–Beaufort   Aug 2016 – now
- **Associate Professor (from Aug 2022)**

EDUCATION

The Pennsylvania State University, State College, Pennsylvania, USA

Ph.D in Computer Science and Engineering   Aug 2010 – Jun 2016

- Dissertation Title: Efficient and Quality-Aware Data Access in Mobile Opportunistic Networks

- Dissertation Committee: Dr. Guohong Cao (advisor and committee chair), Dr. George Kesidis, Dr. Sencun Zhu, Dr. Zhenhui Li, and Dr. Mammut Kandemir

University of Science and Technology of China, Hefei, Anhui, China
B.E. in Electronic Engineering and Information Science   Sep 2006 – Jul 2010

National Tsinghua University, Hsinchu, Taiwan, R.O.C
Exchange student in Department of Electrical Engineering   Sep 2008 – Jan 2009

RESEARCH INTEREST

Mobile computing, Wireless communication, Social networks/Network science, Data science, Data-centric computing, Machine learning

PUBLICATIONS   **Book:**

- **Xiaomei Zhang**, Guohong Cao, Event Attendance Prediction in Social Networks, SpringerBrief, 2021. https://link.springer.com/book/10.1007/978- 3-030-89262-3

Journal Paper:

- **Xiaomei Zhang**, "Enhancing mobile cloud with social-aware device-to-device offloading," in *Computer Communications*, vol. 168, pp. 1-11, 2021. ISSN 0140-3664, https://doi.org/10.1016/j.comcom.2020.12.020.

- **Xiaomei Zhang**, Yibo Wu, Lifu Huang, Heng Ji and Guohong Cao, "Expertise-Aware Truth Analysis and Task Allocation in Mobile Crowdsourcing," in *IEEE Transactions on Mobile Computing*, vol. 20, no. 3, pp. 1001-1016, 1 March 2021

- **Xiaomei Zhang** and Shuyun Luo, "On-Demand Data Forwarding in Mobile Opportunistic Networks: Backbone-based Approach," *IET Communications*, vol. 13, no. 19, pp. 3336-3343, 2019.

- **Xiaomei Zhang**, and Guohong Cao, "Proactively Placing Static Relays with Social-Link Awareness in Mobile Social Networks," in *IEEE Transactions on Vehicular Technology*, vol. 68, no. 2, pp. 1903-1915, Feb. 2019.

- Shuyun Luo, Zhenyu Wen, **Xiaomei Zhang**, Weiqiang Xu, Albert Y. Zomaya, and Rajiv Ranjan. "GoSharing: An intelligent incentive framework based on users' association for cooperative content sharing in mobile edge networks," *Future Generation Computer Systems*, vol. 95, pp. 601-614, 2019.

- **Xiaomei Zhang** and Guohong Cao, "Transient Community Detection and Its Application to Data Forwarding in Delay Tolerant Networks," in *IEEE/ACM Transactions on Networking*, vol. 25, no. 5, pp. 2829-2843, Oct. 2017.

- Feng Tian, Bo Liu, Xiao Sun, **Xiaomei Zhang**, Guohong Cao and Lin Gui, "Movement-Based Incentive for Crowdsourcing," in *IEEE Transactions on Vehicular Technology*, vol. 66, no. 8, pp. 7223-7233, Aug. 2017.

- Xiao Sun, Zongqing Lu, **Xiaomei Zhang**, Marcel Salathé, and Guohong Cao, "Infectious Disease Containment Based on a Wireless Sensor System," in *IEEE Access*, vol. 4, pp. 1558-1569, 2016.

Conference Paper:

- **Xiaomei Zhang**, "Enabling PeerCloud in Vehicular Networks: Feasibility and Reliability of Vehicle-to-Vehicle Offloading," *International Conference on Computing, Networking and Communications (ICNC)*, 2023.

- **Xiaomei Zhang**, "PeerCloud: Enhancing Mobile Cloud with Social-Aware Device-to-Device Offloading," *The 29th International Conference on Computer Communications and Networks (ICCCN)*, pp. 1-7, 2020.

- **Xiaomei Zhang**, Yibo Wu, Lifu Huang, Heng Ji and Guohong Cao, "Expertise-Aware Truth Analysis and Task Allocation in Mobile Crowdsourcing," *In Proceedings of the 37th IEEE International Conference on Distributed Computing (ICDCS)*, pp. 922-932, 2017. (Acceptance Ratio: 89/531 = 16.8%)

- **Xiaomei Zhang**, Yibo Wu and GuohongCao, "Resource-Aware Approaches for Truth Analysis in Crowdsourcing," *In Proceedings of the 13th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS)*, pp. 19-27, 2016.

- Yibo Wu, Yi Wang, Wenjie Hu, **Xiaomei Zhang**, and Guohong Cao, "Resource-Aware Photo Crowdsourcing Through Delay Tolerant Networks," *In Proceedings of the 36th IEEE International Conference on Distributed Computing Systems (ICDCS)*, pp. 374-383, 2016 (Acceptance Ratio: 68/386 = **17.6%**)

- **Xiaomei Zhang**, Jing Zhao, and Guohong Cao, "Who Will Attend?–Predicting Event Attendance in Event- Based Social Network," *In Proceedings of the 17th IEEE International Conference on Mobile Data Management (MDM)*, Vol. 1, pp. 74-83, 2015. (Acceptance Ratio < 25%)

- Xiao Sun, Zongqing Lu, **Xiaomei Zhang**, Marcel Salathé, and Guohong Cao, "Targeted Vaccination Based on a Wireless Sensor System," *In Proceedings of the 13th IEEE International Conference on Pervasive Computing and Comunications (Percom)*, pp. 215-220, 2015 (Acceptance Ratio: 29/196 = **14.8%**)

- **Xiaomei Zhang** and Guohong Cao, "Efficient Data Forwarding in Mobile Social Networks with Diverse Connectivity Characteristics," *In Proceedings of the 34th IEEE International Conference on Distributed Computing Systems (ICDCS)*, pp. 31-40, 2014. (Acceptance Ratio: 66/500 = **13.2%**)

- Jing Zhao, **Xiaomei Zhang**, Guohong Cao, Mudhakar Srivatsa and Xifeng Yan, "Expertise-Based Data Access in Content-Centric Mobile Opportunistic Networks", *In Proceedings of the 11th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS)*, pp. 199-207, 2014.

- **Xiaomei Zhang** and GuohongCao, "Transient Community Detection and Its Application to Data Forwarding in Delay Tolerant Networks," *In Proceedings of the 21th IEEE International Conference on Network Protocols (ICNP)*, pp. 1-10, 2013. (Acceptance Ratio: 46/251 = **18.3%**)

EXPERIENCES **University of South Carolina Beaufort**   Aug 2016 – now
Associate Professor (from Aug 2022), Computational Science

- **Research areas**: Mobile computing, Wireless communication, Social networks, Network science, Data science, Data-centric computing
  Paper published (first-author): MASS 2016, TON 2017, ICDCS 2017, TVT 2018, IET 2019, ICCCN 2020, Computer Communications 2021, TMC 2021
  Non first-author papers: TVT 2017, FGNS 2019

- **Courses taught**: Data Mining (CSCI B522), Data Communications and Networks (CSCI B516), Introduction to Data Mining (CSCI B422), Introduction to Computer Networks (CSCI/ISAT B416), Introduction to Computer Security (CSCI/ISAT B201), Digital Logic Design (CSCI/ISAT B211), Introduction to Computer Science (CSCI/ISAT B‘50), Mobile Application Development (CSCI B250)

The Pennsylvania State University   Aug 2010 – Jun 2016
Research Assistant, Mobile Computing and Networking Lab
Advisor: Dr. Guohong Cao

- *Project 1: Social-Aware Data Forwarding in Mobile Opportunistic Networks*
  Analyze and exploit various social-aware mobility patterns of mobile users, propose new protocols to improve the data forwarding performance in mobile opportunistic networks with diverse network connectivity characteristics.
  Paper published: ICDCS 2014, MASS 2014, ICNP 2013

- *Project 2: Human Mobility Prediction*
  Characterize people's irregular mobility patterns on event attendance by extracting semantic, temporal and spatial features, and also evaluate based on the event-based social network–Meetup.
  Paper published: MDM2015

- *Project 3: Information Quality in Crowdsourcing*
  Build a feedback loop between communication networks and information networks and use communication networks to collect the right information to improve the overall information quality in crowdsourcing.

The Pennsylvania State University   2011 Spring– 2011 Fall
Teaching Assistant, Department of Computer Science and Engineering

Courses: CMPEN 362 Communication Networks, CMPSC 465 Data Structures and Algorithms

University of Science and Technology of China   Jul 2009 – Jul 2010
Research Assistant, Information Network Lab

- Research on network coding in wireless networks

TEACHING EXPERIENCE	**CSCI B522 Data Mining**, University of South Carolina–Beaufort Instructor	Spring 2020 – 2023
	CSCI B516 Data Communications and Networks, University of South Carolina–Beaufort Instructor	Spring 2020 – 2023
	CSCI B422 Introduction to Data Mining, University of South Carolina–Beaufort Instructor	Spring 2017 – 2023
	CSCI B416 Introduction to Computer Networks, University of South Carolina–Beaufort Instructor	Spring 2017 – 2023
	CSCI B150 Introduction to Computer Science, University of South Carolina–Beaufort Instructor	Fall 2016 – Spring 2023
	CSCI B211 Digital Logic Design, University of South Carolina–Beaufort Instructor	Fall 2016 - 2021
	CSCI B201 Introduction to Computer Security, University of South Carolina–Beaufort Instructor	Fall 2017 - 2021
	CSCI B250 Mobile Application Development, University of South Carolina–Beaufort Instructor	Fall 2016
	CMPSC 465 Data Structures and Algorithms, The Pennsylvania State University Teaching Assistant	Spring 2011
	CMPEN 362 Communication Networks, The Pennsylvania State University Teaching Assistant	Fall 2011
HONORS & AWARDS	**AJI Magellan Fellow** University of South Carolina	2021

College of Engineering Fellowship   2011
The Pennsylvania State University

Samsung Scholarship   2009
China Samsung

National Scholarship   2008
Awarded to the top 3% university students in China

Fellowship for exchange students to National Tsing-Hua University   2008
Awarded by the Li-Ching Cultural and Educational Foundation

National Scholarship   2007
Awarded to the top 3% university students in China

Outstanding Freshman Scholarship   2006
University of Science and Technology of China

PROFESSIONAL **Presentations in Professional Conferences**
TALKS

Title: "PeerCloud: Enhancing Mobile Cloud with Social-Aware Device-to-Device Offloading",
The 1st IEEE International Workshop on Advances in Fog/Edge Computing at the 29th International Conference on Computer Communications and Networks,
Virtual conference, August, 2020.

Title: "Expertise-Aware Truth Analysis and Task Allocation in Mobile Crowdsourcing",
The 37th IEEE International Conference on Distributed Computing (ICDCS),
Atlanta, GA, June 2017.

Title: "Resource-Aware Approaches for Truth Analysis in Crowdsourcing",
The 13th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS),
Brazilia, Brazil, October 2016.

Title: "Who Will Attend?–Predicting Event Attendance in Event- Based Social Network",
The 17th IEEE International Conference on Mobile Data Management (MDM),
Pittsburgh, PA, June 2015.

Title: "Expertise-Based Data Access in Content-Centric Mobile Opportunistic Networks",
The 11th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS),
Philadelphia, PA, October 2014.

Title: "Efficient Data Forwarding in Mobile Social Networks with Diverse Connectivity Characteristics",
The 34th IEEE International Conference on Distributed Computing Systems (ICDCS),
Madrid, Spain, June 2014.

Title: "Providing Efficient Privacy-Aware Incentives for Mobile Sensing",
The 34th IEEE International Conference on Distributed Computing Systems (ICDCS),
Madrid, Spain, June 2014.

Title: "Transient Community Detection and Its Application to Data Forwarding in Delay Tolerant Networks",
The 21th IEEE International Conference on Network Protocols (ICNP),
Göttingen, Germany, October 2013.

Mentored Student Presentations

"Using Cybersecurity Data Science to Detect Malicious URLs",
James Smith and Xiaomei Zhang (Faculty Mentor)
2021 Discover USC

"Sentiment Analysis of COVID-19 Twitter Trend",
Nicholas Ferry and Xiaomei Zhang (Faculty Mentor)
2020 USCB Student Research and Scholarship Day

"Analyzing National Basketball Association (NBA) Statistics Through Data Mining Modeling",
Jay Cheatham and Xiaomei Zhang (Faculty Mentor)
2020 USCB Student Research and Scholarship Day

"Classifying Ideal Vehicle Structures",
Brantley Walling, Brandon Andrews and Xiaomei Zhang (Faculty Mentor)
2020 USCB Student Research and Scholarship Day

"Corona Virus Case Study: An Investigation of Doubling Rates",
Cynthia Flowers and Xiaomei Zhang (Faculty Mentor)
2020 USCB Student Research and Scholarship Day

"Corona Virus Case Study: An Investigation of Doubling Rates",
Zachary Shafer and Xiaomei Zhang (Faculty Mentor)
2020 USCB Student Research and Scholarship Day

"Characterizing and Predicting the Social Trends of Local Community Using Online Social Networks",
Jeremy Suarez and Xiaomei Zhang (Faculty Mentor)
2018 USCB Research and Scholarship Day

"PTSD UNMASKED",
Osias Lozano, Ryan Craven and Xiaomei Zhang (Faculty Mentor)
2017 USCB Research and Scholarship Day