ZHIYANG WANG

CONTACT

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RESEARCH INTERESTS

My research is focused on the areas of wireless communications and machine learning. I am especially interested in graph neural networks and their theoretical analyses. Some of my recent projects include analyses of the limits of graph neural networks when graphs are sampled from manifolds, and decentralized resource allocation in wireless adhoc networks with graph neural networks.

EDUCATION

University of Pennsylvania *2019-Present*
Ph.D. candidate in Electrical Engineering   Advisor: Prof. Alejandro Ribeiro
The Dean's Fellowship recipient
The Bruce Ford Memorial Fellowship recipient

Pennsylvania State University *Jul. 2018 - Dec. 2018*
Visiting Scholar in Electrical Engineering   Advisor: Prof. Jing Yang

University of Science and Technology of China *2012-2019*
Master in Electrical Engineering   Advisor: Prof. Cong Shen
Bachelor in Electrical Engineering   Advisor: Prof. Cong Shen

TEACHING EXPERIENCE

University of Pennsylvania
Teaching Assistant
ESE 680-003, Graph Neural Networks   *Fall 2020*
ESE 224, Signal and Information Processing   *Spring 2021*

University of Science and Technology of China
Teaching Assistant
C programming   *Spring 2015*
MIMO wireless communications course   *Fall 2017*

PULICATIONS

Journal:
Z. Wang, R. Zhou, and C. Shen, "Regional Multi-Armed Bandits with Partial Informativeness", IEEE Trans. Signal Process., Volume: 66, Issue: 21, Page(s): 5705-5717, Nov. 2018

Z. Wang and C. Shen, "Small Cell Transmit Power Assignment Based on Correlated Bandit Learning", IEEE Journal on Selected Areas in Communications, Vol. 35, No. 5, Page(s): 1030-1045, May 2017.

Conference:
Z. Wang, L. Ruiz and A. Ribeiro, "Stability of Neural Networks on Riemannian Manifolds", accepted at the European Signal Processing Conference (EUSIPCO), Aug. 2021.

Z. Wang, M. Eisen and A. Ribeiro, "Unsupervised Learning for Asynchronous Resource Allocation in

Ad-hoc Wireless Networks", accepted at the International Conference on Acoustics, Speech and Signal Processing (ICASSP), Jun. 2021.

L. Ruiz, Z. Wang and A. Ribeiro, "Graph and Graphon Neural Network Stability", accepted at the International Conference on Acoustics, Speech and Signal Processing (ICASSP), Jun. 2021.

Z. Wang, M. Eisen and A. Ribeiro, "Decentralized Wireless Resource Allocation with Graph Neural Networks", accpted at the Asilomar Conference on Signals, Systems, and Computers, Nov. 2020.

C. Shen, Z. Wang, S. S Villar and M. van der Schaar, "Learning for Dose Allocation in Adaptive Clinical Trials with Safety Constraints", International Conference on Machine Learning (ICML), 2020.

Z. Wang, Z. Ying, and C. Shen, "Opportunistic Spectrum Access via Good Arm Identification", IEEE GlobalSIP 2018, Anaheim, California, USA, Nov. 2018.

Z. Wang and C. Shen,"Small Cell Power Assignment with Unimodal Continuum-armed Bandits", 2018 IEEE International Conference on Communications Workshops on 5G-UDN.

Z. Wang, R. Zhou, and C. Shen, "Regional Multi-Armed Bandits", Proceedings of the Twenty-First International Conference on Artificial Intelligence and Statistics (AISTATS), PMLR 84:510-518, Playa Blanca, Lanzarote, Canary Islands, April 9-11, 2018.

Z. Wang, C. Shen, X. Luo, M. van der Schaar, "Learn to Adapt: Self-Optimizing Small Cell Transmit Power with Correlated Bandit Learning", IEEE International Conference on Communications (ICC), 2017.

SKILLS

Programming: Python, C, JAVA, MATLAB, Origin
Documentation: MS Office, LaTex

AWARDS AND RECOGNITIONS

The Bruce Ford Memorial Fellowship 2019
Excellence fellowship granted by the University of Pennsylvania in addition to The Dean's Fellowship

National Award for Graduates Sep. 2017
Granted by China's Ministry of Education to graduate students with excellent academic performance.

IEEE ICC student Travel Grant 2017
Awarded by IEEE to cover for travel expenses.

The First Prize in Graduate Academic Scholarship: USTC 2016-2019

Excellent Award: The Undergraduate Research Program in USTC Oct.2015

First prize of Contemporary Undergraduate Mathematical Contest in Modeling, Anhui Division Sep.2015

Outstanding Student Scholarship: USTC 2013-2015

Outstanding Volunteer of the Chinese Young Volunteers Association 2013