Tasmeen Zaman Ornee

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Education

Ph.D., Electrical Engineering **Aug 2018 – Present**
Auburn University, Auburn, AL; **Advisor: Yin Sun** *CGPA: 4.00/4.00*

M.S., Electrical Engineering **Aug 2018 – Aug 2022**
Auburn University, Auburn, AL; **Advisor: Yin Sun** *CGPA: 4.00/4.00*

B.Sc., Electrical and Electronics Engineering **Feb 2013 – Sep 2017**
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh *3.73/4.00*

Research Interests

Communication Networks
Age of Information
Remote Estimation
Reinforcement Learning
Optimization and Decision Theory
Information Theory

Awards and Honors

Candidate Profile, ACM SIGMETRICS Performance Evaluation Review Dec 2023
accepted for a special issue on job market candidates.
IEEE ComSoc Student Travel Grant, IEEE MILCOM Nov 2023
to attend and present paper at IEEE MILCOM 2023 in Boston, MA.
NSF Travel Grant, North American School of Information Theory June 2023
to attend and present poster at NASIT 2023 in Philadelphia, PA.
100+ Women Strong Outstanding Graduate Student Award Feb 2023
for outstanding academic and research performance.
100+ Women Strong Travel Fellowship Award Feb 2023
to attend and present poster at ITA 2023 in San Diego, CA.
ACM SIGMOBILE Student Travel Grant, ACM MobiHoc Oct 2022
to attend ACM MobiHoc 2023 in Seoul, Korea.
100+ Women Strong Travel Fellowship Award Oct 2022
to attend ACM MobiHoc 2023 in Seoul, Korea.
IEEE INFOCOM Student Conference Grant June 2022
to attend IEEE INFOCOM virtually.
Best Paper Award, IEEE/IFIP WiOpt June 2019
for paper with title *Sampling for Remote Estimation through Queues: Age of Information and Beyond*
Dean's Award, BUET, Bangladesh 2017, 2016, 2015
for outstanding academic performance in these years.
HSC Scholarship (General), Government of Bangladesh 2012
for outstanding results in HSC examination
Disciplined Student Award, Rajuk Uttara Model College 2012, 2010
for being the most disciplined student in these years.
SSC Scholarship (Talent), Government of Bangladesh 2010
for outstanding results in SSC examination
Junior Scholarship (Talent), Government of Bangladesh, Position: **5th in Dhaka Board** 2008
for outstanding results in Junior Scholarship examination
Primary Scholarship (Talent), Government of Bangladesh 2005
for outstanding results in Primary Scholarship examination

PUBLICATIONS

Book Chapter:

- **Tasmeen Zaman Ornee** and Yin Sun, "Age of Information and Remote Estimation" in *Age of Information: Foundations and Applications*. Bo Zhou, Walid Saad, Harpreet S. Dhillon, Nikolas Pappas, and Mohamed Abd-Elmagid eds. *Cambridge University Press (CUP)*, 2023.

Preprints & In Progress

- **Tasmeen Zaman Ornee**, Md Kamran Chowdhury Shisher, Clement Kam, and Yin Sun, "Status Updating for Situational Awareness Maximization," in preparation, 2023.
- **Tasmeen Zaman Ornee** and Yin Sun, "Remote Estimation of Gauss-Markov Processes over Multiple Channels: A Whittle Index Policy," submitted to *IEEE/ACM Transactions on Networking*, 2023.

Journal:

- **Tasmeen Zaman Ornee** and Yin Sun, "Sampling and Remote Estimation for the Ornstein-Uhlenbeck Process through Queues:Age of Information and Beyond," *IEEE/ACM Transaction on Networking*, 2021. (**Recommended for Fast-tracked Review**)

Conference publications:

- **Tasmeen Zaman Ornee**, Md Kamran Chowdhury Shisher, Clement Kam, and Yin Sun, "Context-Aware Status Updating: Wireless Scheduling for Maximizing Situational Awareness in Safety-Critical Systems," *IEEE MILCOM QuAVoI Workshop*, 2023.
- **Tasmeen Zaman Ornee** and Yin Sun, "A Whittle Index Policy for the Remote Estimation of Multiple Continuous Gauss-Markov Processes over Parallel Channels," *ACM MobiHoc*, 2023.
- **Tasmeen Zaman Ornee** and Yin Sun, "Performance Bounds for Sampling and Remote Estimation of Gauss-Markov Processes over a Noisy Channel with Random Delay," *IEEE SPAWC*, 2021. (**Invited Paper**)
- **Tasmeen Zaman Ornee** and Yin Sun, "Sampling for Remote Estimation through Queues: Age of Information and Beyond," *IEEE/IFIP WiOpt*, 2019. (**Best Paper Award**)
- Md. Kamran Chowdhury Shisher, **Tasmeen Zaman Ornee**, and Md. Farhad Hossain, "QoS aware user association in massive MIMO enabled hetnets for DTU and NDTU traffic," *IEEE ICAEE*, 2017.

Work EXPERIENCE

Research Assistant, Real-time Networking Lab, Auburn University Fall 2018-present

- Developed optimal sampling policy for a class of stochastic processes and low-complexity algorithms for remote estimation by utilizing tools from probability theory, optimization, and stochastic processes.
- Designed efficient Whittle index scheduling policies for multiple sensors monitoring multiple diffusion processes.
- Investigated different safety-critical systems for designing scheduling algorithms to reduce loss due to the unawareness of the surrounding situation. Achieved up to 100 times performance gain for the developed policy.

Teaching Assistant, ELEC 2120 Signals and Systems, Auburn University Fall 2021, Fall 2022, Spring 2023

- Conducted lab lectures on linear Systems, convolution, Fourier series, Fourier transformation, and Laplace transformation both with TIMS module and MATLAB.
- Graded the homeworks, quizzes, and labs for approximately 55 students.

Teaching Assistant, ELEC 3810 Fundamentals of Electrical Engineering, Auburn University Spring 2022

- Graded the homeworks, quizzes, and exams for approximately 60 students.

TALKS

Context-aware Status Updating: Wireless Scheduling for Maximizing Situational Awareness in Safety-critical Systems

- IEEE MILCOM 2023-Workshop on QuAVoI, Boston, MA — Oct 2023
- Virginia Tech (virtual) — Oct 2023

A Whittle Index Policy for the Remote Estimation of Gauss-Markov Processes over Multiple Channels

- ACM MobiHoc 2023, Washington, DC — Oct 2023
- University of Maryland, College Park, MD — Oct 2023
- Middle East Technical University (virtual) — Oct 2023
- NASIT, Philadelphia, PA — June 2023
- ITA, San Diego, CA — Feb 2023

Optimizing age of information with correlated sources, Oct 2022
ACM MobiHoc 2022 (on behalf of Vishrant Tripathi and Eytan Modiano), Seoul, South Korea.
Sampling of Gauss-Markov Processes for Remote Estimation, Oct 2022
Ph.D. General Examination, Auburn University, Auburn, AL.
Sampling of Gauss-Markov Processes over a Channel with Random Delay, April 2022
Auburn Research Symposium, Auburn University, Auburn, AL.
Performance Bounds for Sampling and Remote Estimation of Gauss-Markov Processes over Channel with Random Delay, Sep 2021
IEEE SPAWC (virtual).
Sampling for Remote Estimation through Queues: Age of Information and Beyond

- Wireless Seminar, Auburn University, Auburn, AL — Sep 2019
- IEEE/IFIP WiOpt, Avignon, France — June 2023

SERVICES

Reviewer for Journal Manuscript Submissions 2020-present

- Journal on Communications and Networks (JCN), 2023
- IEEE Transactions on Networking (ToN), 2022, 2023
- IEEE Transactions on Wireless Communications, 2020, 2022, 2023
- IEEE Journal on Selected Areas in Communication AoI, 2020

Reviewer for Conference Manuscript Submissions 2019-present

- IEEE INFOCOM, 2020, 2021, 2022, 2023
- IEEE ITC, 2022
- IEEE ISIT, 2022
- IEEE INFOCOM AoI Workshop, 2019, 2020, 2022
- IEEE SPAWC, 2021
- IEEE WCNC, 2021
- IEEE WCSP, 2019

Maintainer of an **online paper repository on Age of Information** Aug 2018-Aug 2021
Auxiliary Committee Member, Bangladesh Student Organization, Auburn University 2021-2022
Volunteer on E-Day, Auburn University, Auburn, AL Feb 2020
Outreach Activity: Helped to host an event for 3-5th grader students from Lakeside Eelemntary School at Dept. of ECE, Auburn University, Auburn, AL Jan 2019

PROFESSIONAL MEMBERSHIP

IEEE Graduate Student Member
IEEE Information Theory Society Member
IEEE Communication Society Member
ACM SIGMOBILE Member

REFERENCES

Prof. Yin Sun, yzs0078@auburn.edu, Auburn University
Prof. Anthony Ephremides, etony@umd.edu, University of Maryland, College Park
Prof. Roy Yates, ryates@winlab.rutgers.edu, Rutgers University
Dr. Clement Kam, clement.kam@nrl.navy.mil, U.S. Naval Research Laboratory