

TASMEEN ZAMAN ORNEE

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Education

Ph.D., Electrical Engineering <i>Auburn University, Auburn, AL; Advisor: Yin Sun</i>	Aug. 2018 – Present <i>CGPA: 4.00/4.00</i>
M.S., Electrical Engineering <i>Auburn University, Auburn, AL; Advisor: Yin Sun</i>	Aug. 2018 – Aug. 2022 <i>CGPA: 4.00/4.00</i>
B.Sc., Electrical and Electronics Engineering <i>Bangladesh University of Engineering and Technology, Dhaka, Bangladesh</i>	Feb. 2013 – Sep. 2017 <i>3.73/4.00</i>

Research Interests

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

Awards and Honors

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

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.

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 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.

Preprints & In Progress

- **Tasmeen Zaman Ornee**, Md Kamran Chowdhury Shisher, Clement Kam, and Yin Sun, “Timely Updates for Situational Awareness”, 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.

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 TMS 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
- 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-present

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. Bo Ji, boji@vt.edu, Virginia Tech

Prof. Anthony Ephremides, tony@eng.umd.edu, University of Maryland, College Park

Dr. Clement Kam, clement.kam@nrl.navy.mil, U.S. Naval Research Laboratory