

TASMEEN ZAMAN ORNEE

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Education

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| Ph.D., Electrical Engineering <i>Auburn University, Auburn, AL; Advisor: Yin Sun</i> | Aug 2018 – May 2024 <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
Reinforcement Learning
Optimization and Decision Theory
Age of Information
Remote Estimation
Information Theory

Awards and Honors

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| 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/IFIP 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.

Journals:

- **Tasmeen Zaman Ornee**, Md Kamran Chowdhury Shisher, Clement Kam, and Yin Sun, “Contextual Status Updating: How to Maximize Situational Awareness,” submitted to *IEEE Journal on Selected Areas in Communications*, 2024.
- **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.
- **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.

Research Experience

PostDoctoral Scholar, The Ohio State University

Summer 2024-present

- Currently working on the development of Learning algorithms for achieving fairness in Multi-agent Reinforcement learning.

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

- Index-based Approach for Fairness in Wireless Networks,** Oct 2024
Kickoff meeting of Army Research Lab funded Project, The Ohio State University, Columbus, OH.
- 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
- IEEE Transactions on Networks and Science, 2024
 - Journal on Communications and Networks (JCN), 2023
 - IEEE Transactions on Networking (ToN), 2022, 2023, 2024
 - IEEE Transactions on Communications (TCOM), 2021, 2022, 2023
 - IEEE Transactions on Wireless Communications, 2020, 2022, 2023, 2024
 - IEEE Journal on Selected Areas in Communication AoI, 2020
- Reviewer for Conference Manuscript Submissions** 2019-present
- ACM MobiHoc ASoI Workshop, 2024
 - IEEE INFOCOM, 2020, 2021, 2022, 2023, 2024
 - IEEE ITC, 2022
 - IEEE ISIT, 2022
 - IEEE INFOCOM AoI Workshop, 2019, 2020, 2022
 - IEEE SPAWC, 2021
 - IEEE WCNC, 2021
 - IEEE WCSP, 2019

- Attended as a panelist in “**Choosing Between Industry and Academia: Career Paths and Considerations**” at NSF AI-Edge Institute of The Ohio State University July 2024
- Maintainer of an **online paper repository on Age of Information** Aug 2018-Feb 2024
- 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 Member

IEEE Information Theory Society Member

IEEE Communication Society Member

ACM SIGMOBILE Member

References

Prof. Ness B. Shroff, shroff.11@osu.edu, The Ohio State University

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