

EDUCATION

The Pennsylvania State University

Pennsylvania, USA

Ph.D. Candidate, Computer Science and Engineering

Aug 2021 - Present

- Advisor: Dr. Mingfu Shao
- Research area: My research interests are in Bioinformatics and Computational Biology. Specifically, I work with short- and long-read RNA-seq data to improve the accuracy and resolution of circular RNA assembly.

Bangladesh University of Engineering and Technology (BUET)

Dhaka, Bangladesh

BS.c. in Computer Science and Engineering

Feb 2015 - Apr 2019

- CGPA: 3.90/4.00

WORK EXPERIENCE

The Pennsylvania State University

Pennsylvania, USA

Graduate Research/Teaching Assistant

Aug 2021 - Present

Ahsanullah University of Science and Technology (AUST)

Dhaka, Bangladesh

On study leave, Department of Computer Science and Engineering

July 2019 - July 2021

Dhanmondi Tutorial

Dhaka, Bangladesh

Teacher

Jan 2019 - April 2019

PUBLICATIONS

1. **Tasfia Zahin**, Irtesam Mahmud Khan, Mingfu Shao. Accurate Reconstruction of Circular RNAs from Complex Rolling Circular Long Reads with CircPlex. *bioRxiv*, Nov 2025. <https://doi.org/10.1101/2025.11.21.689841>
2. Zhezheng Song*, **Tasfia Zahin***, Xiang Li, Mingfu Shao. Accurate Detection of Tandem Repeats from Error-Prone Sequences with EquiRep. *Genome Research*, December 2025 35: 2714-2721.
3. Zhezheng Song*, **Tasfia Zahin***, Xiang Li, Mingfu Shao. Accurate Detection of Tandem Repeats from Error-Prone Sequences with EquiRep. *Proceedings of 29th International Conference on Computational Molecular Biology (RECOMB 2025). Lecture Notes in Computer Science*, vol 15647, pp. 390–394. Springer, Cham, 2025.
4. **Tasfia Zahin**, Qian Shi, Carl Zang, Mingfu Shao. Accurate Assembly of Circular RNAs with TERRACE. *Genome Research*, September 2024 34: 1365-1370.
5. **Tasfia Zahin**, Qian Shi, Carl Zang, Mingfu Shao. Accurate Assembly of Circular RNAs with TERRACE. *Proceedings of 28th International Conference on Computational Molecular Biology (RECOMB 2024). Lecture Notes in Computer Science*, vol 14758, pp. 444–447. Springer, Cham, 2024.
6. Xiaofei Carl Zang, **Tasfia Zahin**, Irtesam Mahmud Khan, Qian Shi, Yi Xing, Mingfu Shao. Amaranth: Enhanced Single-Cell Transcript Assembly via Discriminative Modeling of UMI Reads and Internal Reads. *bioRxiv*, Nov 2025. <https://doi.org/10.1101/2025.11.24.690228>
7. Irtesam Mahmud Khan, Xiaofei Carl Zang, Ange Teng, **Tasfia Zahin**, Mingfu Shao. Boosting Transcript Assembly via Delineating Transcript Start and End Sites. *bioRxiv*, Oct 2025. <https://doi.org/10.1101/2025.10.13.682211>
8. **Tasfia Zahin***, Md Hasin Abrar*, Mizanur Rahman Jewel, Tahrina Tasnim, Md Shamsuzzoha Bayzid, Atif Rahman. An alignment-free method for phylogeny estimation using maximum likelihood. *BMC bioinformatics*, 2025 Mar 7;26(1):77.

ACADEMIC SERVICES

- Sub-reviewer of *ISMB 2026*, *RECOMB 2026*, *RECOMB 2025*, *WABI 2025*, *RECOMB 2024*, *ISMB 2024*, *WABI 2024*, *WABI 2023*, *RECOMB 2022*, *ACM-BCB 2022*.
- Volunteer at the 2024 Workshop on Emerging Methods for Sequence Analysis (WEMSA 2024) organized by The Pennsylvania State University.

CONFERENCE PARTICIPATION	<ul style="list-style-type: none"> • Research and poster presenter at RECOMB 2025, Seoul, South Korea. • Research presenter at RECOMB 2024, Boston, Massachusetts, USA. • Research presenter at the 2023 Workshop on Emerging Methods for Sequence Analysis (WEMSA 2023) organized by The Pennsylvania State University, Pennsylvania, USA. • Attendee of ISMB 2022, Madison, Wisconsin, USA. • Attendee of RECOMB 2020 Virtual Conference.
TEACHING EXPERIENCE	<ul style="list-style-type: none"> • Teaching assistant, The Pennsylvania State University, Pennsylvania, USA. <ul style="list-style-type: none"> • CMPSC 465 Data Structures and Algorithms, Fall 2021, Fall 2024. • Instructor, Ahsanullah University of Science and Technology, Dhaka, Bangladesh. <ul style="list-style-type: none"> • CSE 3107 and CSE 3108 Microprocessors, Spring 2019, Fall 2019. • CSE 2186 Basic Programming Techniques, Fall 2020, Fall 2019. • CSE 1287 and CSE 1288 Computer Programming, Spring 2020. • CSE 2146 Introduction to Computer Systems, Spring 2020.
LEADERSHIP AND ENGAGEMENT	<ul style="list-style-type: none"> • IT support sub-committee member, The 23rd International Conference on Computer and Information Technology (ICCIT) 2020, Ahsanullah University of Science and Technology. • Executive committee member, Robotics Club, Ahsanullah University of Science and Technology, 2020-2021. • Mentor, Bangladeshi Women in Computer Science and Engineering (BWCSE) Mentor-mentee program, Bangladesh University of Engineering and Technology, 2020-2021. • Media and publication secretary, English Medium Buetians' Association (EMBA), Bangladesh University of Engineering and Technology, 2018-2019. • Adjudicator, BRAC Inter-University Debate Competition 2016. • Delegate, Bangladesh Youth Leadership Summit 2016. • Member, Bangladeshi Women in Computer Science and Engineering (BWCSE), Bangladesh University of Engineering and Technology, 2015-2019. • Member, Debating Club, Bangladesh University of Engineering and Technology, 2015-2017.
AWARDS AND HONORS	<ul style="list-style-type: none"> • Winner of Huawei Seeds for the Future, 2019, Travel Grant by Huawei Technologies. • Dean's List Honor, 2015-2019, Bangladesh University of Engineering and Technology (BUET). • Daily Star O and A Level Award of Excellence, 2012 and 2014, The Daily Star Newspaper, Bangladesh.
REFERENCE	<p>Dr. Mingfu Shao <i>Associate Professor</i> Department of Computer Science and Engineering The Pennsylvania State University W205A Westgate Building University Park, PA 16802 Email: mxs2589@psu.edu</p> <p>Dr. Atif Hasan Rahman <i>Associate Professor</i> Department of Computer Science and Engineering Bangladesh University of Engineering and Technology (BUET) ECE Building, West Palashi, Dhaka-1000, Bangladesh Email: atif@cse.buet.ac.bd</p>