# TASFIA ZAHIN

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https://tasfiazahin.github.io/
https://github.com/TasfiaZahin

## EDUCATION

**The Pennsylvania State University** — Pennsylvania, USA
*Ph.D. Candidate, Computer Science and Engineering* — 2021 - Present
- Advisor: Dr. Mingfu Shao
- Research area: Computational Biology

**Bangladesh University of Engineering and Technology (BUET)** — Dhaka, Bangladesh
*BS.c. in Computer Science and Engineering* — 2015 - 2019
- CGPA: 3.90/4.00

## WORK EXPERIENCE

**The Pennsylvania State University** — Pennsylvania, USA
*Graduate Research/Teaching Assistant* — 2021 - Present

**Ahsanullah University of Science and Technology (AUST)** — Dhaka, Bangladesh
*On study leave, Department of Computer Science and Engineering* — 2019 - Present

**Dhanmondi Tutorial** — Dhaka, Bangladesh
*Teacher* — 2019

## PUBLICATIONS

1. **Tasfia Zahin**, Irtesam Mahmud Khan, Mingfu Shao. Accurate Reconstruction of Circular RNAs from Complex Rolling Circular Long Reads with CircPlex. *bioRxiv, 2025. Under review at ISMB 2026.*

2. Zhezheng Song*, **Tasfia Zahin***, Xiang Li, Mingfu Shao. Accurate Detection of Tandem Repeats from Error-Prone Sequences with EquiRep. *Genome Research, 2025.*

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 Research in Computational Molecular Biology (RECOMB 2025).*

4. **Tasfia Zahin**, Qian Shi, Carl Zang, Mingfu Shao. Accurate Assembly of Circular RNAs with TERRACE. *Genome Research, 2024.*

5. **Tasfia Zahin**, Qian Shi, Carl Zang, Mingfu Shao. Accurate Assembly of Circular RNAs with TERRACE. *Proceedings of 28th International Conference on Research in Computational Molecular Biology (RECOMB 2024).*

6. Xiaofei Carl Zang, **Tasfia Zahin**, Iretsam Mahmud Khan, Qian Shi, Yi Xing, Mingfu Shao. Amaranth: Enhanced Single-Cell Transcript Assembly via Discriminative Modeling of UMI Reads and Internal Reads. *bioRxiv, 2025. Under review at ISMB 2026.*

7. Irtesam Mahmud Khan, Xiaofei Carl Zang, Ange Teng, **Tasfia Zahin**, Mingfu Shao. Boosting Transcript Assembly via Delineating Transcript Start and End Sites. *bioRxiv, 2025. Under review at Genome Biology.*

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.*

## TECHNICAL SKILLS

**Languages:** C++, C, Python, Java, MATLAB, Assembly (Intel 8086)

**Scripting Languages:** LaTeX, Bash

**Genome Browser:** Integrative Genome Browser (IGV)

**Deep Learning Libraries:** Keras, Pytorch

**Database Language:** SQL, PL/SQL

**Hardware:** Proteus, Atmel Studio, Arduino

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| ACADEMIC EXPERIENCES | • Teaching assistant for CMPSC 465, Fall 2021, The Pennsylvania State University. |
| | • Teaching assistant for CMPSC 465, Fall 2024, The Pennsylvania State University. |
| | • Research and poster presenter at RECOMB 2025. |
| | • Research presenter at RECOMB 2024. |
| | • 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. |
| | • Research presenter at the 2023 Workshop on Emerging Methods for Sequence Analysis (WEMSA 2023) organized by The Pennsylvania State University. |
| | • Attendee of ISMB 2022 Conference at Madison, Wisconsin. |
| | • Attendee of RECOMB 2020 Virtual Conference. |
| | • Member of BUET CS Bioinformatics group, a platform for sharing ideas and related research topics. |

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| OTHER EXPERIENCES | • Member of IT support sub-committee, The 23rd International Conference on Computer and Information Technology (ICCIT) 2020, hosted by Ahsanullah University of Science and Technology (AUST). |
| | • Member of executive committee, Ahsanullah University of Science and Technology (AUST) Robotics Club. |
| | • Mentor of Bangladeshi Women in Computer Science and Engineering (BWCSE) Mentor-mentee program, Bangladesh University of Engineering and Technology (BUET). |
| | • Member of Bangladeshi Women in Computer Science and Engineering (BWCSE), Bangladesh University of Engineering and Technology (BUET). |
| | • Delegate of Bangladesh Youth Leadership Summit 2016. |
| | • Adjudicator of BRAC Inter-University Debate Competition 2016. |
| | • Member of Bangladesh University of Engineering and Technology (BUET) Debating Club. |
| | • Media and Publication Secretary of English Medium Buetian's Association (EMBA), Bangladesh University of Engineering and Technology (BUET). |

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| AWARDS AND HONORS | • **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. |

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| REFERENCE | **Dr. Mingfu Shao** |
| | *Associate Professor* |
| | Department of Computer Science and Engineering |
| | The Pennsylvania State University |
| | W205A Westgate Building |
| | University Park, PA 16802 |
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| | |
| | **Dr. Atif Hasan Rahman** |
| | *Associate Professor* |
| | Department of Computer Science and Engineering |
| | Bangladesh University of Engineering and Technology (BUET) |
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