

# Tabassum Mahmud

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## EDUCATION

### Ph.D. Student in Computer Engineering

IOWA STATE UNIVERSITY

AMES, IA

Fall2019-Present

GPA:3.73/4

### B.Sc. in Electrical and Electronic Engineering

CHITTAGONG UNIVERSITY OF ENGINEERING AND TECHNOLOGY

BANGLADESH

Mar2013-Dec2017

GPA:3.71/4

## EXPERIENCE

### Research Assistant-Data Storage Lab, ECpE, ISU

Fall2019 - Present

- Surveyed existing techniques for bug detection, e.g. Symbolic Execution (S2E, KLEE), Dynamic Analysis (Fuzzing), Static Analysis.
- Explored configuration related issues in the storage stack and storage applications.

### Network Engineer-Fiber@Home, Dhaka, Bangladesh

Mar2018 - Nov2018

- Worked in the integration section of Info-Sarkar-III project.

## RESEARCH INTEREST

Storage Systems, Systems Reliability, Distributed Systems

## RESEARCH PROJECT

- **Configuration bug detection in the storage stack and storage applications** [on going]  
In this project, we studied configuration bugs in the storage stack and identified the pattern and critical cross-component configuration dependencies. Our aim is to identify the critical cross-component dependencies in the storage stack automatically and use those to check the behavior of the programs when following and violating the dependencies. (submitted)

## PUBLICATIONS

- **CONFD: Analyzing Configuration Dependencies of File Systems for Fun and Profit (To appear)**  
Tabassum Mahmud, Om Rameshwar Gatla, Duo Zhang, Carson Love, Ryan Bumann and Mai Zheng.  
Proceedings of the 21st USENIX Conference on File and Storage Technologies (FAST), 2023.
- **On the Reproducibility of Bugs in File-System Aware Storage Applications**  
Duo Zhang, Tabassum Mahmud, Om Rameshwar Gatla, Runzhou Han, Yong Chen, and Mai Zheng.  
Proceedings of the 16th IEEE International Conference on Networking, Architecture, and Storage (NAS), 2022.
- **Understanding Configuration Dependencies of File Systems**  
Tabassum Mahmud, Duo Zhang, Om Rameshwar Gatla and Mai Zheng.  
Proceedings of the 14th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage), 2022. *Best Paper Nominee*
- **Understanding Configuration Issues in Storage Systems**  
Tabassum Mahmud, Mai Zheng.  
Work in Progress (WiP) & Poster Sessions, 20th USENIX Conference on File and Storage Technologies (FAST), 2022.

## SKILLS

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- **Programming Language**  
C, C++, Python
- **Software Testing**  
LLVM, American Fuzzy Lop (AFL), KLEE, S2E
- **Technology**  
Git, Docker
- **Systems**  
File Systems architecture (Specially EXT4), File System Utility Packages (Specially E2fsprogs), File System Testing Suite (xfsprogs)

## COURSES TAKEN

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- Applied Formal Methods (ComS 507) (Fall-21)
- Distributed Systems (CprE 550) (Spring-21)
- Design and Analysis of Algorithms (ComS 511) (Fall-20)
- Network Protocols and Security (CprE 530) (Fall-20)
- Statistical Theory for Research Workers (Stat 588) (Spring-20)
- Advanced Data Storage (CprE 563)(Spring-20)
- Real-Time Systems (CprE 554) (Fall-19)

## AWARDS AND SCHOLARSHIP

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- Received **"Best Paper Nominee"** at **HotStorage'22**
- Received **USENIX** diversity grant to attend **FAST'20**, **FAST'22** conference

## OTHER PROFESSIONAL ACTIVITIES

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- Served as sub-reviewer for the 36th IEEE International Parallel Distributed Processing Symposium (IPDPS), 2022
- Served as sub-reviewer for the 8th National Workshop for REU Research in Networking and Systems (REUNS), 2022
- Attended **CCS iMentor 2021** Workshop