Tabassum Mahmud

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EDUCATION

Ph.D. Student in Computer Engineering Fall2019-Present
Iowa State University GPA:3.73/4
Ames, IA

B.Sc. in Electrical and Electronic Engineering Mar2013-Dec2017
Chittagong University of Engineering and Technology GPA:3.71/4
Bangladesh

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 Reliablitiy, 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

- **Drill: Log-based Anomaly Detection for Large-scale Storage Systems Using Source Code Analysis.** ***To appear*** Di Zhang, Chris Egersdoerfer, **Tabassum Mahmud**, Mai Zheng, Dong Dai.
  Proceedings of the 37th IEEE International Parallel Distributed Processing Symposium (IPDPS), 2023.
- **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

- 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

- High-Performance Communication Networks (CprE 541) (Fall-22)
- 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

- Received "Best Paper Nominee" at `HotStorage'22`
- Received **USENIX** diversity grant to attend `FAST'20, FAST'22, FAST'23` conference

OTHER PROFESSIONAL ACTIVITIES

- 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