

# Shareef Ahmed

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## CURRENT POSITION

### Graduate Student

Department of Computer Science  
University of North Carolina at Chapel Hill  
North Carolina, USA

August 2019 - Present

### Lecturer (On Leave)

Department of Computer Science and Engineering  
Bangladesh University of Engineering and Technology  
Dhaka, Bangladesh

April 2016 - Present

## EDUCATION

- **M.Sc in Computer Science and Engineering - (2019)**  
Bangladesh University of Engineering and Technology  
Thesis: Algorithms for  $r$ -gathering and  $r$ -gather clustering
- **B.Sc in Computer Science and Engineering - (2016)**  
Bangladesh University of Engineering and Technology  
CGPA: 3.98/4.00  
Thesis: Some Variants of Pairwise Compatibility Graphs

## RESEARCH INTEREST

Real-time Systems, Scheduling Theory, Parallel and Distributed Algorithms, Graph Algorithms

## PUBLICATION

- [c12] **Shareef Ahmed** and James H. Anderson, **Soft Real-Time Gang Scheduling**, Proceedings of the 44th IEEE Real-Time Systems Symposium (RTSS), IEEE, 2023, to appear.
- [c11] Zelin Tong, **Shareef Ahmed** and James H. Anderson, **Holistically Budgeting Processing Graphs**, Proceedings of the 44th IEEE Real-Time Systems Symposium (RTSS), IEEE, 2023, to appear.
- [c10] **Shareef Ahmed** and James H. Anderson, **Optimal Multiprocessor Locking Protocols under FIFO Scheduling**, Proceedings of the 35th Euromicro Conference on Real-Time Systems (ECRTS), Schloss Dagstuhl - Leibniz-Zentrum für Informatik, pages 16:1–16:21, 2023.
- [c9] **Shareef Ahmed** and James H. Anderson, **Exact Response-Time Bounds of Periodic DAG Tasks under Server-Based Global Scheduling**, Proceedings of the 43rd Real-Time Systems Symposium (RTSS), IEEE, pages 447–459, 2022.
- [c8] Zelin Tong, **Shareef Ahmed**, and James H. Anderson, **Overrun-Resilient Multiprocessor Real-Time Locking**, Proceedings of the 34th Euromicro Conference on Real-Time Systems (ECRTS), Schloss Dagstuhl - Leibniz-Zentrum für Informatik, pages 9:1–9:24, 2022.
- [j2] **Shareef Ahmed**, Shin-ichi Nakano, and Md. Saidur Rahman,  **$r$ -gatherings on a Star and Uncertain  $r$ -gathering on a Line**, Journal of Discrete Mathematics, Algorithms, and Applications, Volume 14, Issue 5, 2022.

- [c7] **Shareef Ahmed** and James H. Anderson, **Tight Tardiness Bounds for Pseudo-Harmonic Tasks Under Global-EDF-Like Schedulers**, Proceedings of the 33rd Euromicro Conference on Real-Time Systems (ECRTS), Schloss Dagstuhl - Leibniz-Zentrum für Informatik, pages 11:1–11:24, 2021. **Outstanding Paper Award**
- [c6] Joshua Bakita, **Shareef Ahmed**, Sims H. Osborne, Stephen Tang, Jingyuan Chen, F. Don Smith, and James H. Anderson, **Simultaneous Multithreading in Mixed-Criticality Real-Time Systems**, Proceedings of the 27th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), IEEE, pages 278-291, 2021.
- [j1] Md. Saidur Rahman and **Shareef Ahmed**, **A survey on pairwise compatibility graphs**, AKCE International Journal of Graphs and Combinatorics, Volume 17, Issue 3, pages 788–795, 2020.
- [c5] **Shareef Ahmed** and James H. Anderson, **A Soft-Real-Time-Optimal Semi-Clustered Scheduler with a Constant Tardiness Bound**, Proceedings of the 26th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), IEEE, pages 1–10, 2020.
- [c4] Sims H. Osborne, **Shareef Ahmed**, Saujas Nandi, James H. Anderson, **Exploiting Simultaneous Multithreading in Priority-Driven Hard Real-Time Systems**, Proceedings of the 26th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), IEEE, pages 1–10, 2020. **Best Paper Award**
- [c3] **Shareef Ahmed**, Shin-ichi Nakano, and Md. Saidur Rahman, **One-Dimensional r-Gathering Under Uncertainty**, Proceedings of the 13th International Conference on Algorithmic Aspects in Information and Management (AAIM), Lecture Notes in Computer Science, Springer, pages 1–15, 2019.
- [c2] **Shareef Ahmed**, Shin-ichi Nakano, and Md. Saidur Rahman, **r-Gatherings on a Star**, Proceedings of the 13th International Conference and Workshops on Algorithms and Computation (WALCOM), Lecture Notes in Computer Science, Springer, pages 31–42, 2019.
- [c1] **Shareef Ahmed** and Md. Saidur Rahman, **Multi-interval Pairwise Compatibility Graphs**, Proceedings of the 14th Theory and Applications of Models of Computation (TAMC), Lecture Notes in Computer Science, Springer, pages 71–84, 2017.

## ACADEMIC AWARDS

- Dean’s list award (for brilliant result in each year during undergraduate program at BUET)
- University Merit Scholarship (for brilliant result in each semester of undergraduate program at BUET)
- Scholarship for outstanding performance in Admission Test of undergraduate program at BUET

## SKILLS

- **Languages:** C, C++, Java, Python, PHP, intel 8086 Assembly, Matlab, Prolog, L<sup>A</sup>T<sub>E</sub>X
- **Software & Technologies**
  - Database: Oracle, MySql
  - Framework: Code Igniter
  - Others: Microsoft Visual Studio, Netbeans, Eclipse, Network Simulator (NS2), Lex, Bison, YACC

- Good presentation skill and technical writing ability
- Ability to work both independently or as a team

**TEACHING  
EXPERIENCE**

**Lecturer at Department of CSE,**  
Bangladesh University of Engineering and Technology

*April 2016 - August 2019*

Course Taught (Selected):

- Compiler, Simulation & Modeling, Algorithm Engineering, Computational Geometry