MD ASHIQUR RAHMAN

PHD STUDENT ~ THE UNIVERSITY OF ARIZONA

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Skills

Research	Computer Networks, Named Data Networking, routing in mobile ad-hoc networks, scheduling algorithms with network coding in RSU-based vehicular ad-hoc networks (V2I).
Coding and Tools	C/C++ **(preferred)**, familiar with Scala, Java and Python; ViM, GDB, Lucene, Docker, NS-3, CSIM.
Others	Natural language processing, Database systems, Information retrieval.

Experience

- ***Graduate Assistant***

  Computer Science, The University of Arizona, AZ *2016-Present*

  Research: Architectural differences between Named Data Networking (NDN) and IP in mobile ad-hoc networks (submitted). Routing in challenging networks.

  Teaching: CSC 425: Computer Networks (grader and project maintainer), Spring-17, Fall-17.
  CSC 452: Operating Systems (grader).

- ***Instructor***

  Computer Science and Engineering, Daffodil International University, Bangladesh *2015-2016*

  Teaching (in-person): CS 113: Intro to Programming, CS 134 Data Structures, CS 221: Algorithms.

  Mentor, Contest organizer and Judge: Competitive programming: Beginner and Intermediate.

- ***Workshop Manager and Trainer***

  Special Group of Interest in Programming Contests (SGIPC), KUET, Bangladesh *2012-2015*

Education

- ***Graduate (PhD):** Computer Science, The University of Arizona, AZ **(GPA: 3.75/4.00)*** *2016-05/2021*

  - **Student Developer**: NDN Forwarding Daemon (NFD): (https://named-data.net/doc/NFD/current/). A network forward that evolves together with the NDN architecture.
  - **NLP**: Built a weighted dropout probability-based system to support multi-level token annotation in medical literature. Near SoTA performance with significantly lower training time. ***Tools: Python, Tensorflow, Docker***.
  - **Information Retrieval**: Built a (part of) Watson to index and retrieve top relevant Wikipedia pages for short queries similar to the Jeopardy game. Built a spam classifier. ***Tools: Scala, Lucene, Maven***.
  - **DBMS**: Implemented heapfile, buffer manager and B+ tree of a MINIBASE database system. ***Tool: C.***
  - **Networks**: Implemented a software router with ARP and PWOSPF protocol supporting link failure. ***Tool: C.***
  - **Hackathon**: 2nd Runner-up in 8th and Winner in 6th and 4th NDN Hackathon.

  Relevant Coursework: Algorithms in NLP; Database Systems and Implementation; Text Retrieval & Web Search; Algorithms in Bioinformatics; Principles of Computer Networks; Operating Systems; Computer Graphics; Computer Security.

- ***Undergraduate (BSc):** Computer Science and Engineering, Khulna University of Engineering & Technology (KUET), Bangladesh **(GPA: 3.60/4.00)*** *2011-2015*

  - **Thesis**: Application of network coding in scheduling algorithms in multi-RSU vehicular ad-hoc networks. *Published six papers* from related studies, two as the first author, two as second and two as third. ***Tool: CSIM***.
  - **Software Development**: Implemented a gas station automation software, ***Tools: C#, .NET, Crystal Reports.***
  - **Hackathon**: Winner- Water hackathon, World Bank ('12).
  - **Programming**: Four ACM ICPC regionals, IUT-ICT Fest (best- 14th). Workshop manager and trainer.

  Relevant Coursework: Computer Networks, Data Communication, Machine Learning, Data Mining, Artificial Intelligence, Fault-tolerant systems, Data Structures and Algorithms, Algorithms, Mathematical Analysis, Digital System Design, Software Engineering.