

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.