MD Armanuzzaman **Email: armanuzzamankuetcse@gmail.com**
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EDUCATION

- **University at Buffalo, NY, USA**
  Ph.D. student in Computing Science and Engineering 08/2020 to present
  Advisor: Ziming Zhao
- **Rochester Institute of Technology, NY, USA**
  Ph.D. student in Computing and Information Science 08/2019 to 06/2020
  Advisor: Ziming Zhao
- **Bachelor of Science (B. Sc.)** 03/2013 to 04/2017
  Computer Science and Engineering
  Khulna University of Engineering & Technology, Khulna, Bangladesh
  CGPA: 3.49 (Out of 4.0) - Class Position: 14th (Out of 60)

RESEARCH INTEREST

System Security, Software Security, Mobile Security, Hardware assisted Security

RESEARCH EXPERIENCE

- **Current research:**
  Enhancing ARM Cortex-M, Cortex-A devices security. Due to resource constraints and lack of required hardware to provide sufficient security with reasonable performance are still missing on these devices. Some Cortex-M architecture devices run bare metal applications without basic security features. My research goal is to enhance the security of these widely deployed systems in our daily life with available hardware resources. Also, my research aligns with FPGAs available on commodity hardware to enhance security features.
- **Undergraduate Research work:**
  Title: A Reliable and Efficient Data Transmission protocol Using Quantum Key Distribution
  Summary: The objective of this thesis is to provide a reliable key exchange and to transmit data efficiently. This thesis is based on presenting a way to transmit data within two parties with the ability to detect any eavesdropper. While traditional cryptosystems such as RSA, DES, AES, etc have become vulnerable, Quantum Key Distribution(QKD) provides a platform for secure data transmission. The experiment is primarily based on two theorems, "Heisenberg uncertainty theorem" and "no-cloning theorem" both related to QKD for secure data transmission.

PUBLICATIONS

- **MD Armanuzzaman**, Kazi Md. Rokibul Alam, Md. Mehadi Hassan.
  Title: A secure and efficient data transmission technique using quantum key distribution
  Published In: 4^{th} International Conference on Networking, Systems and Security (NSysS) 2017.

TECHNICAL SKILLS

- **CTF:** Work on reverse engineering challenges: Over the wire hacking games, pwn,collage. MITRE eCTF participation.
- **Programming Language:** C,C++, Python, Java(Core and J2EE)
- **FPGA hardware and Software development:** Vivado FPGA design suite, XSDK
- **Scripting Language:** TCL, Python, ASP, JAVASCRIPT

- **Web Technologies:** HTML, CSS, ASP(Basic level), Spring MVC, Sturts MVC, JQuery
- **DBMS:** Oracle, MySQL, Hibernate, eMatrix
- **Software Version Control:** Git, Github

COMPETITIVE PROGRAMMING

Online Programming Platforms:

- **UVA OJ:** Solved 100+ problems (Handle : Tomal.kuet)
- **Codeforces:** Solved 180+ problems (Handle: Tomal)— Max. Rating -1348, Participated 40 contests
- **LightOJ:** Solved 35+ problems(Handle: MD.Armanuzzaman Tomal)

AWARS AND ACHIEVE-MENTS

- 2021 fall: Teaching Assistant of CSE410/510: Software security (Class size 60) [University at Buffalo]
- 2021 spring: 9th place MITRE Collegiate eCTF 2021(Best Write-up reward)
- 2021 spring: Grants at NDSS 2021 (Feb. 21 - 25)
- 2020 spring: 6th place in MITRE Collegiate eCTF 2020
- University Faculty Dean Award in the session 2015-16

COURSE PROJECTS

- Image Reconstruction | Machiene Learing Project at RIT (2019)
  Implementation of reconstructing images with significant eigenfaces
  Tools: Matlab
- Esho_Shikhi | Software Development Project at KUET (2014)
  A desktop application that makes children's education more interesting
  Language: Java | Tools: Eclipse
- File-Share | Web Development Project at KUET (2014)
  A website to share files with group members and to avoid unwanted access
  Language: ASP | HTML | CSS |JavaScript | Jquery | Tools: Visual Studio.
- Wireless PC Controller | Software Development Project at KUET (2016)
  An android application to operate various functions of computer through Wi-Fi network **Language:** Java | Tools: Android Studio, Eclipse
- Car shooting game | Computer Graphic Laboratory Project at KUET (2016)
  An attractive 3D game
  Language: C++ (OpenGl)| Tools: CodeBlocks

VOLUNTEERING AND MEMBERSHIP

- **Cactilab:** Participate in Weekly hacking training (Aug 2019 - present)
- **SGIPC – Special Group, Interested in Programming Contest** (May 2013 to 2017)
  Conducted a number of workshops on C Programming and Algorithms. Arranged and volunteered in several programming contests within the campus.(KUET)
- **Bit2Byte.KUET** - An Organization to Encourage Student in Software Development (MAY 2013 to 2017)
  Conducted a number of workshops on software development.