

MD IFTEKHARUL ISLAM SAKIB

RESEARCH INTEREST

- Internet of Things (IoT)
- Software-Defined Networking (SDN)
- Network and Systems
- Network and Systems Security

RESEARCH EXPERIENCE

JANUARY 2015 - CURRENT

Software-Defined Networking (SDN) Security Issues

Supervisor: Dr. Md. Shohrab Hossain

- Considered different security vulnerabilities in data, control and management plane
- Analyzed the security issues regarding compromised switches i.e. incorrect or duplicate forwarding, packet dropping, packet manipulating, etc.
- Designed, implemented and analyzed a hybrid and real-time compromised switch detection framework "FADCS"
- "FADCS" detects anomalies with minimalistic false positive detection rate and network traffic overhead

DECEMBER 2012 - DECEMBER 2014

IP Mobility Security Issues

Supervisor: Dr. Md. Shohrab Hossain

- Analyzed various security issues in Mobile IP and modeled four Mobile IP attacks i.e. DoS, Bombing, Redirection and Replay attack using Stochastic Game Petri Net (SGPN)
- Proposed mixed strategy based defense strategies for the stated attacks and modeled them with SGPN
- Calculated the Nash Equilibrium of the attacker-defender game and thereby discussed the optimal active time of an Intrusion Detection System for better detection

PUBLICATIONS

- Talukder S., Sakib M. I. I., Hossen M. F., Talukder Z. R., and Hossain M. S., "Attacks and Defenses in Mobile IP: Modeling with Stochastic Game Petri Net", in *Proceedings of International Conference on Current Trends in Computer, Electrical, Electronics and Communication (ICCTCEEC)*, Karnataka, India, 2017
- Talukder S., Sakib M. I. I., Talukder Z. R., Das U., Saha A., and Bayev N. S. N., "USenSewer: Ultrasonic Sensor and GSM-Arduino Based Automated Sewerage Management", in *Proceedings of International Conference on Current Trends in Computer, Electrical, Electronics and Communication (ICCTCEEC)*, Karnataka, India, 2017
- Hasan R., Rabbi F., Naznin M., and Sakib M. I. I., "Partial Scheduling Based Energy Aware Coverage in a Heterogeneous Sensing System", in *Proceedings of International Conference on Networking, Systems and Security (NSysS)*, Dhaka, Bangladesh, 2017
- Talukder S., Sakib M. I. I., and Rahman M. M., "Model for E-Government in Bangladesh: A Unique ID Based Approach", in *Proceedings of International Conference on Informatics, Electronics & Vision (ICIEV)*, Dhaka, Bangladesh, 2014
- Talukder S., Sakib M. I. I., and Rahman M. M., "Digital Land Management System: A new initiative for Bangladesh", in *Proceedings of International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)*, Dhaka, Bangladesh, 2014

Room No. 418, Dept. of CSE, BUET, Dhaka, Bangladesh.
+880 1711-375911
miisakib@cse.buet.ac.bd
<http://www.miisakib.com>
<https://www.linkedin.com/in/miisakib>

EDUCATION

- 2019 - CURRENT **Doctor of Philosophy (Ongoing)**
Computer Science
University of Illinois at Urbana-Champaign
- 2018 **Master of Science**
Computer Science and Engineering
Bangladesh University of Engg & Tech
CGPA: 3.83 out of 4.0
- 2014 **Bachelor of Science**
Computer Science and Engineering
Bangladesh University of Engg & Tech
CGPA: 3.87 out of 4.0
Major CGPA: 3.95 out of 4.0
Position: 8th in a class of 153 students

PROFESSIONAL EXPERIENCE

- 2019 - Current **Assistant Professor**
Computer Science and Engineering
Bangladesh University of Engg & Tech
- 2014 - 2019 **Lecturer**
Computer Science and Engineering
Bangladesh University of Engg & Tech
- 2012 - 2013 **Research Intern**
Consular, Diplomatic Bag and Central Receipt Section
Ministry of Foreign Affairs, Bangladesh

TEACHING EXPERIENCE*

- **Courses Instructed in CSE, BUET**
 - ▶ Computer Networks
 - ▶ Digital System Design
 - ▶ Compiler
 - ▶ Structured Programming
 - ▶ Object Oriented Programming
 - ▶ Operating System
 - ▶ Algorithms
 - ▶ Data Structures
 - ▶ Assembly Language Programming
 - ▶ Database
 - ▶ Software Engineering
 - ▶ Computer Architecture
 - ▶ Microprocessors and Microcontrollers
- **Courses Instructed in Bangladesh-Korea Information Access Center (BK-IAC)**
 - ▶ Quick Web Development
 - ▶ Database Management and Administration
- **Projects Supervised in CSE, BUET**
 - ▶ Smart Security System for Exam Papers
 - ▶ Sign Language Translator
 - ▶ Driver Attention Detection and Alerting System
 - ▶ Smart Parking System using IoT
 - ▶ Multiplayer Network Rubik's Cube

* For complete list, please visit my homepage

PROJECTS*

XI Class Admission System for Ministry of Education, Bangladesh

- Involved in design & development of a centralized national admission system for the enrollment of students in class XI

NIDW Project of Bangladesh Election Commission

- Evaluated the national ID and voter management system of Bangladesh as a member of an external committee

eRecruitment System for Dhaka North City Corporation (DNCC)

- Engaged in design & development of an online application & processing system for job vacancies in DNCC

Automation of Consular Services, Diplomatic Bag & Central Receipt Section of Ministry of Foreign Affairs (MOFA), Bangladesh

- Involved in design & development of individual automated system for each of the above-mentioned sections of MOFA

Digital Land Management System

- Proposed and developed a GPS based online land management and surveying system

USenSewer: Ultrasonic Sensor & GSM-Arduino Based Automated Sewerage Management

- Proposed and implemented a system for routine checkup and removal of drain blockage vital for the continuous wastewater flow in urban areas

Pipelined 4-bit Computer Design

- Developed a miniature PC that is capable of pipelined execution of 30 basic commands

Data Link Layer and Network Layer Implementation

- Implemented Selective Repeat Protocol with Piggyback and Link State Routing protocol

* For complete list, please visit my homepage

TECHNICAL SKILLS

| | |
|------------------|---|
| Languages | C, C++, Java, C#, Python, Android |
| Web Development | PHP, JavaScript, jQuery, Ajax, HTML, CSS, XML, Google Map API |
| Database Design | SQL, PL/SQL, MySQL, Oracle, SQLite |
| Analysis | MatLab, Inkscape, GNU plot |
| Operating System | Windows, Linux, Mac OS, BackTrack |
| Other | L ^A T _E X, Prolog, WordPress, Proteus, Adobe Photoshop, Microsoft Office, CorelDRAW |

AWARDS

| | |
|-------------|---|
| 2010 - 2014 | Dean's List Bangladesh University of Engg & Tech (BUET) |
| 2009 - 2014 | University Merit Scholarship Bangladesh University of Engg & Tech |
| 2013 | Runner-Up, Inter-University Project Show Bangladesh University of Engg & Tech |
| 2011 | Runner-Up, Intra Department Project Show Bangladesh University of Engg & Tech |
| 2008 - 2011 | Higher Secondary Merit Scholarship Dhaka Education Board |
| 2006 - 2007 | Secondary School Merit Scholarship Dhaka Education Board |

PROFESSIONAL AFFILIATIONS

- Member**, Institute of Electrical and Electronics Engineers (IEEE) (2013 - Current)
- Member**, IEEE Computer Society (2015 - Current)
- Member**, Association for Computing Machinery (ACM) (2015 - Current)
- Member**, Institution of Engineers, Bangladesh (IEB) (2014 - Current)
- Member**, Bangladesh Computer Society (BCS) (2014 - Current)
- Hospitality Secretary**, BUET Teachers' Association (2017 - Current)
- Convener**, Teachers' Block, Shahid Smriti Hall, BUET (2015 - Current)
- Member**, Engineering Students Association of Bangladesh (ESAB) (2013 - Current)
- Vice-President**, Students Association of Mymensingh, BUET (2013-2014)
- Member**, Rover Scout, BUET (2013-2014)

EXTRACURRICULARS

| | |
|---|---|
| 2018 - Current | Course Coordinator Bangladesh-Korea Information Access Center (BK-IAC), CSE, BUET |
| 2018 | Organizer 12 th International Conference and Workshops on Algorithms and Computation (WALCOM 2018) |
| 2015, 2016, 2017 (3 rd) and 2017 (4 th) | Organizer International Conference on Networking, Systems and Security (NSysS) |
| 2013, 2014 | Organizer Alumni Reunion, Suhrawardy Hall, BUET |
| 2013 | Runner-up Men's Singles Badminton Tournament, Suhrawardy Hall, BUET |
| 2011, 2012 | Runner-up CSE Undergraduate Project Show, BUET |
| 2004 | Organizer 150 years' Celebration, Mymensingh Zilla School |
| 1999 | Regional Champion Poem Recitation Competition, Bangladesh Shishu Academy Competition |