Sadman Sakib

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EDUCATION

B. Sc., Computer Science and Engineering   *Feb 2017 – Apr 2022 (expected)*
Bangladesh University of Engineering & Technology (BUET)
- Current CGPA: 3.86/4.00 (7/8 terms). Rank: 14th among 120 students.
- Final two years CGPA: 3.98/4.00 (3/4 terms)

RESEARCH INTEREST

Internet of Things, Network Protocols and Architecture, Mobile and Ubiquitous Computing, Wireless Networks, Wireless Sensor Networks, Embedded Systems

RESEARCH EXPERIENCE

Transparent Third-party Authentication and Application Mobility in Federated Edge Computing
Feb 2020 – Oct 2021
Supervisor: Dr. Ying-Dar Lin (NYCU), Dr. Md. Shohrab Hossain (BUET)
- Designed and developed novel architecture and protocols for authentication and application state transfer in Inter-MEC and MEC-Fog federation
- Studied authentication mechanisms and user mobility in cellular network, various wireless networks and edge computing
- Studied application of edge and fog computing in various networks such as WLAN, 4G/5G, LoRaWAN, WSN etc.

IoT-VR: IoT Simulation Platform for Cost-free Deployment and Monitoring of IoT Network
Jan 2020 – Present
Supervisor: Dr. Matthew Caesar (UIUC), Md. Iftekharul Islam Sakib (BUET)
- Leading IoT simulation and providing future directions
- Designing and developing simulation of IoT devices, sensors and network
- Studying IoT devices, protocols, simulation tools and existing platforms

Predicting Sequence Features of DNA Bendability and Chromosome Conformation with Deep Learning
Mar 2021 – Present
Supervisor: Dr. Md Abul Hassan Samee (BCM), Dr. M. Sohel Rahman (BUET)
- Analysing sequence motifs of DNA bendability and chromosome conformation in Yeast genome by interpreting multinomial CNN model

MANUSCRIPTS

[1] **Federated 3GPP Mobile Edge Computing Systems: A Transparent Proxy for 3rd-Party Authentication with Application Mobility Support** (Under-review)
Asad Ali, Samin Rahman Khan, Sadman Sakib, Md. Shohrab Hossain and Ying-Dar Lin

[2] **Provisioning Fog Services to 3GPP Subscribers: Authentication and Application Mobility**
(Under-review)
Asad Ali, Tushin Mallick, <u>Sadman Sakib</u>, Md. Shohrab Hossain, and Ying-Dar Lin

PRESENTATIONS

[1] **A deep learning model reveals sequence signatures associated with DNA bendability and links bendability-altering mutations with aberrant chromosomal conformation**
Samin Rahman Khan, <u>Sadman Sakib</u>, M. Sohel Rahman, Md. Abul Hassan Samee
In *Conference on Genome Informatics, Cold Spring Harbor Laboratory*, 2021

COMMUNITY ENGAGEMENT

Participant, ACM SIGPLAN International Conference on Functional Programming 2021
Participant, International Conference on Research in Computational Molecular Biology 2021

PROJECTS

Detecting and Tracing Objects with Microcontrollers and Sensors
- Created an smartphone application small-scale radar with microcontrollers, sonar sensors, Wi-Fi module and a smartphone. Demo: youtu.be/v-IjqOj-CHs

DingiMap: Map for providing enhanced location and urban services
- Developed a web application for providing enhanced map services with Google Maps API

TECHNICAL SKILLS

Languages: C, C++, Python, Java, Unix shell scripts, MATLAB, Arduino, Javascript, HTML, CSS, SQL, Node.js
Frameworks: Linux networking, Network Simulator (NS3), ThingsBoard, OpenAirInterface 5G, Proteus, Tensorflow, Docker, Apache Kafka, Google Cloud Platform, AWS, MongoDB, PostgreSQL, Wireshark

HONORS & AWARDS

Dean's List, BUET	2018-21
University Merit Scholarship, BUET	2017-21
Winner, National Undergraduate Mathematics Olympiad	2018
Honorable Mention, Notre Dame College	2016

EXTRA-CURRICULAR ACTIVITIES

Contestant, CSE Hackathon, 2019
Academic Team Member, Bangladesh Mathemetical Olympiad, 2018-19
Contestant, Bengali Handwritten Digit Recognition with Deep Learning, 2018
President, Notre Dame Chess Club, 2015-16