

S. M. Zuhair Zaki

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Education

2018 – 2023

📖 **B.Sc. in Computer Science and Engineering**

Bangladesh University of Engineering and Technology (BUET)

Thesis title: *Improvement of RTS/FCTS based protocol for full-duplex wireless networks.*

Notable Projects

• **Englishhour**

CSE 408: Software Development Sessional

An English learning platform aimed toward school-going children

– Built using **React.js, Express, PostgreSQL**

– Teaches Grammar and Vocabulary through games and puzzles

GitHub: [Frontend](#), [Backend](#)

• **Location based Dynamic Advertisement System for public transits**

CSE 316: Microprocessors, Microcontrollers, and Embedded Systems Sessional

A system for displaying tailored adverts based on current location

– Built using **ATMega32, GPS Module, WiFi Module, LCD Display**

– Continuously reads GPS NMEA data, converts it into coordinates (Latitude and Longitude) and sends them to a remote server

– Servers holds info about all predesignated zones and associated advertisement queues

– Based on sent coordinates finds the zone the system is currently in and sends back corresponding set of advertisements

• **Implementation of RTT Estimator using Adaptive Kalman Filtering in ns3**

CSE 322: Computer Networks Sessional

In ns3 a first-order low-pass filter rtt estimator is implemented. For better RTT estimation,

implemented an adaptive filter based on kalman filtering with change detection proposed in this [paper](#)
[Project Report](#)

Research Experience

2022 – 2023

📖 **Undergraduate Thesis**


Improving performance and delay of RTC/FCTS based MAC protocol for full-duplex networks by introducing unused tertiary transmission opportunities in addition to previous primary and secondary transmissions

- Simulation of new protocol performance was done using ns3

- Compared with traditional half-duplex protocol, the original protocol and busy-tone based protocol

Research Publications

Conference Proceedings

- 1 M. A. Siddik, T. Shahriar, **SM Zuhair Zawhar Zaki**, *et al.*, "A novel frts/fcts-based mac protocol for in-band full-duplex wireless ad-hoc networks," in *Proceedings of The 19th International Conference on Wireless and Mobile Computing, Networking and Communications.(WiMob'23)*, 2023, pp. 36–42.  DOI: 10.1109/WiMob58348.2023.10187733.

Work Experience

- Aug, 2023 –  **Software Security Engineer**, OpenRefractory, Inc.
- Contribute to SAST tool development
 - Report open source vulnerabilities under the *Alpha-Omega* project supported by *OpenSSF*
 - Some notable open source contributions:
 - [kizniche/Mycode](#)
 - [Open-MSS/MSS](#)
 - [ckan/ckan](#)

Miscellaneous Experience

Activities

- 2023  **Co-Founder**, [BUET Cyber Security Club](#)
-  **Problem Setter**, [Intra University CTF competitions](#)

Achievements

- 2022  **13th Position**, University CyberDrill 2022, Team: **fSociety**
-  **3rd Position**, National CyberDrill 2022, Team: **fSociety**

References

- **Dr. A.K.M. Ashikur Rahman**
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