

# Mobaswirul Islam

🌐 mobaswir.github.io

🔗 ezmata-101

✉ mobaswir.shafi@gmail.com

☎ +880-1886313963

## EXPERIENCE

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- **Lecturer at United International University**  
Department of Computer Science & Engineering *November 2024 -*
- **Software Engineer at Samsung R&D Institute Bangladesh**  
**Tizen UI Core:** Development and Maintenance of Native Tizen Apps *June - November 2024*
  - **Technology Used:** Tizen .NET (C#)

## RESEARCH EXPERIENCE

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- **Full Duplex MAC Protocol (Ongoing)**  
**Supervisor:** Dr. A.K.M. Ashikur Rahman
  - Developed a parser for NS3 trace files to analyze wireless topologies.
  - Conducted thorough testing on different typologies and assisted in debugging during protocol implementation and design.
  - A continuation (implementation) of:  
**A novel FRTS/FCTS-based MAC Protocol for In-band Full-duplex Wireless Ad-hoc Networks**

## EDUCATION

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- **BSc in Computer Science and Engineering** *2019-24*  
*Bangladesh University of Engineering and Technology, Dhaka* CGPA: 3.77
- **Higher Secondary School Certificate** *2018*  
*Birshreshtha Noor Mohammad Public College, Dhaka* GPA: 5.00

## PROJECTS

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- **AFCFL: Adaptive Fairness Compensation-based Federated Learning**  
*Fairness-aware FL with online tuning of  $\alpha$  and  $r$ , plus never-starve client selection.*
  - Reproduced FCFL (fixed  $\alpha$ ,  $r$ ) on base FL.
  - Made adaptive  $\alpha$  and  $r$  with fairness selection.
  - Technology used: PyTorch, Matplotlib
- **NS-3 WiFi Trace Analyzer**  
*Custom analyzer to extract missing insights for our full-duplex Wi-Fi research.*
  - Classifies hd & different fd flows and computes study-specific metrics.
  - Technology Used: Python (pandas, numpy, matplotlib), Gnuplot
- **SFL — SplitFed**  
*Socket-based SplitFed system combining FL parallelism with SL's split-model privacy.*
  - The base work SplitFed shares a simulation.
  - This work is to implement the work for the real world.
  - Technology Used: PyTorch
- **ParkedCar**  
*Android Applications for space and vehicle owners to lend and rent free parking space*
  - Used MVVM pattern in Android application and MVC in Server.
  - Technology Used: Android (Java), ExpressJS, JavaScript, PostgreSQL
- **Online Judge**  
*A react-based web app to arrange contests, participate in contests and solve problems.*
  - Technology Used: ReactJS, ExpressJS, JavaScript, Oracle Database

## SKILLS AND INTERESTS

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**Relevant Coursework:** Advanced Machine Learning, Distributed Systems, Computer Networks and Security, Computer Architecture, Operating Systems, Data Structures & Algorithms, Database, Software Engineering, SPL and OOP.

**Areas of Interest:** Privacy and Security, Computer Networks

**Soft Skills:** Problem Solving, Self-learning, Adaptability