Ahmad Jarif **Yeasir**

Photonics & Optics · Optical Biosensors · Nanophotonics · Wireless Communication

(+880) 1770616025 | ahmadjarif@iut-dhaka.edu | sites.google.com/iut-dhaka.edu/ahmadjarifyeasir | ahmadjarif

Education

Islamic University of Technology *Gazipur, Bangladesh*

B.Sc.Engg. in Electrical and Electronic Engineering **(CGPA: 3.78/4)** [***Transcript***] *2018 - 2022*

- **Average of Last 4 semesters: 3.86/4**, ranked among **top 20 percent** of the department, received **First Class with Honours** [***Certificate***]

Research Interests

- *Optical Sensing, Computations*
- *Nanoplasmonic optical arrays*
- *Plasmonic MIM WG Resonators, Photonic Crystal Fibers as Sensors/ Filters/ Modulators*
- *Integrated Lab-on-a-Chip Optical Sensors*

Research Experience

THESIS: Study on SPR (Surface Plasmon Resonance) based PCF Sensor Design *IUT, Bangladesh*

PI: ***Prof. Dr. Mohammad Rakibul Islam*** *Apr. 2020 - Apr. 2022*

- Studied and Tested **AS, WS** (Amplitude, Wavelength) Sensitivity of **PCF** sensors
- Analyzed how **RW** peak shift affects the **CL** and helps to detect **Analyte RI**
- Implemented the optimisation of **Plasmonic Materials'** attributes for **Sensitivity Fluctuations** of sensor [**Slides**]

Publications (Peer-Reviewed)

Google Scholar

Conference Papers

[C1] Ahmad Jarif Yeasir, Inan Marshad, Fahim Faisal, Sazid Hasan, Md Tahmidur Rahman, Mirza Muntasir Nishat, ***Design and Analysis of A MIM Based Highly Sensitive H-Shaped Ring Resonator Embedded with Gold Nanodefects***, 2023 International Technical Conference on Circuits/Systems, Computers, and Communications, **ITC-CSCC, June 2023**

Journal Papers

[J2] Mohammad Rakibul Islam, Md. Moinul Islam Khan, **Ahmad Jarif Yeasir**, Fariha Mehjabin, Jannat Ara Mim, Jubair Alam Chowdhury, Tajuddin Ahmed Nahid, Mohibul Islam, ***Design and analysis of a highly sensitive SPR based PCF biosensor with double step dual peak shift sensitivity***, **Heliyon, Vol. 9, Issue 8, July 2023 (IF: 4.45)**

[J1] Mohammad Rakibul Islam, Md. Moinul Islam Khan, Fariha Mehjabin, Jubair Alam Chowdhury, Mohibul Islam, **Ahmad Jarif Yeasir**, Jannat Ara Mim, Tajuddin Ahmed Nahid, ***Design of a dual spider-shaped surface plasmon resonance-based refractometric sensor with high amplitude sensitivity***, **IET Optoelectronics, Vol. 17, Issue 1, February 2023 (IF: 1.69)**

Professional Experience

Specialist, IT, Application Planning and Management

Robi Axiata Limited *Dhaka, Bangladesh*

Manager: Mohammad Niazul Haider Chowdhury *Sep. 2022 - Present*

- Planned solution, learnt **system architecture** of **IT-BSS** Platforms: Robi **Recharge and Mediation** System
- Planned **Capacity, Integration**, Implemented projects and **Feature Enhancements** for Robi Recharge Solution (Easyload) and Data Reporting Tool (Mediation)
- Designed **RFQ documents** for Mediation Solution Revamp, delivered MediationZone **Version Upgradation** as **IT Priority Project-Y2023**

English Proficiency Test

Band Score: 7.5, ***Listening: 8.5, Reading: 8.0, Writing: 6.5, Speaking: 7.5*** *Oct.2023*

Relevant Coursework

- Data Communication and Networking I,II
- Communication Engineering
- Random Signals and Processes
- Microwave Engineering
- Wireless Communication
- Digital Signal Processing

Awards & Honors

International

2018-22 **OIC Scholarship**, Ranked 80th in Admission Test to achieve Partial-Funding OIC Scholarship ($13,500)

Domestic

2023 **Star Performer of IT Division, H1-2023**, Robi IT H1 '23 Townhall
2023 **Best Project Manager, Q4-2022**, Implementation of 2 new features in Easyload catering BAU demands
2021 **Semi-Finalist of Cassesination 2.0**, Issued by BIZBEE-Business Club of Brac University
2021 **Nominated: Grameenphone Explorers 2.0**, Designed and pitched prototype of Ed-Tech Platform
2020 **TOP 10 Research Article Writers on COVID-19**, by IEEE Power and Energy Society, Bangladesh Chapter
2015-21 **SSC, HSC Government Scholarship**, by Ministry of Education–Dhaka board

Leadership Positions

2021-2022 **Chair-IEEE IUT Student Branch**, Lead 30+ people to arrange collaborative events, webinars and workshops
2020-21 **Publications Executive**, Volunteering for IEEE Computer Society Bangladesh Winter Symposium 2020
2018-2019 **Executive Committee Member**, Co-ordinator of MATLAB competition for Esonance: IUT EEE Dept. Fest

Academic Projects

Chaotic Grey Wolf Optimization Algorithm Implementation

Optimization Lab, IUT

Mentor: Mr. Md. Arif Hossain

Mar. 2020 - Aug. 2020

- Tested Benchmark functions taking **Grey Wolf Optimization** Algorithm as reference for finding the "Alpha" wolves
- Implemented **K-Fold Cross Validation (K=3)** to generate a matrix of indices for **3:1 ratio** of Training and Test Dataset
- Manipulated the parameter 'a' which determined the **Exploration (Convex) Rate** of the algorithm to find the best location in the search space by adding **Chaos maps** *(4 maps used- Sinusoidal, Singer, Logistic and Tent map)*
- Updated values for the positions of the Search Agents to specify the position. The **Fitness Scores** were firstly taken as **+∞(Minimization)** and **-∞(Maximization)** problems and then updated to evaluate and the best 3 are taken as **Alpha, Beta and Delta** wolf respectively

Enhanced Security in Digital Communication using combined Image Steganography and Cryptography Technique Slides Report

DSP Lab, IUT

Supervisor: Mr. Mirza Muntasir Nishat

Sep. 2021 - Nov. 2021

- Studied better, reliable and secured communication method using **Image Steganography with Integrated Cryptography**
- Implemented **Symmetric Encryption(same key for XOR operation)** was used for Sender Message coding procedure
- Devised **Reverse Steganography** to recover **Decrypted** secret message signal

Automated Diagnosis Of Diabetic Retinopathy using MATLAB Report

Signal and Processes Lab, IUT

Supervisor: Prof. Dr. Muhammad Rezaul Hoque Khan

Sep. 2019 - Oct. 2019

- Detected the condition of the eye from *MATLAB* following **Image Processing** Techniques
- Filtered **Fundus Images** by *Color Space Conversion, Zero Padding, Median Filtering, Histogram Equalisation*
- Quantified the dark spots to detect **Diabetic Retinopathy** and achieved **80% accuracy** for the input Dataset

Base-5 Digital Calculator with ALU, Memory Unit : Design and Implementation Report

Digital Electronics Lab, IUT

Supervisor: Prof. Dr. Rakibul Hasan Sagor

Apr. 2019 - May. 2019

- Designed the **Adder, Subtractor and Multiplier** circuits and subcircuits on **PROTEUS 8** simulation software
- Constructed PCB layout of both the **Arithmetic Logic Unit (ALU) and Memory unit** and printed them out

Technical Strengths

Programming and Scripting Languages: Python, C, C, MATLAB, Bash Scripting, Assembly 8051

CAD and Simulation: PyTorch, MATLAB, Simulink, Comsol Multiphysics, PROTEUS, PSpice, Arduino, Docker, CST Studio Suite, Ansoft Designer

Cloud Environments: Google Cloud Platform (GCP), Google Colab

Microservice Framework: K8S, Docker

Visual Software: Adobe Essentials (Illustrator, Photoshop, Lightroom)

Office Tools: Microsoft Office Suite (Word, Excel, Powerpoint), GSuite (Drive,Google Docs, Sheets, Slides, Forms)