Palash Roy

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Education

Department of Computer Science and Engineering, University of Dhaka   *Dhaka, Bangladesh*

MASTER OF SCIENCE (M.SC.), CGPA: 3.98/4.00   *2020 - 2022*

Department of Computer Science and Engineering, University of Dhaka   *Dhaka, Bangladesh*

BACHELOR OF SCIENCE (B.SC.), CGPA: 3.85/4.00   *2016 - 2019*

Rajuk Uttara Model College   *Uttara, Dhaka, Bangladesh*

HIGHER SECONDARY CERTIFICATE, GPA: 5.00/5.00   *2015*

Rangamati Government High School   *Rangamati, Bangladesh*

SECONDARY SCHOOL CERTIFICATE, GPA: 5.00/5.00   *2013*

Teaching Experience

Green University of Bangladesh   *Dhaka, Bangladesh*

LECTURER, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING   *October 2020 - PRESENT*

Publication

Journal Paper

16. Farhana Huq, Nahar Sultana, **Palash Roy**, Md. Abdur Razzaque, Shamsul Huda, Mohammad Mehedi Hassan, **Cross regional online food delivery: Service quality optimization and real-time order assignment**, Computers & Operations Research (Elsevier), Volume 173, 2025, 106877, (IF: 4.1).

15. Nahar Sultana, Farhana Huq, **Palash Roy**, Md. Abdur Razzaque, Md. Mustafizur Rahman, Taiyeba Akter, Mohammad Mehedi Hassan, **Context aware clustering and meta-heuristic resource allocation for NB-IoT D2D devices in smart healthcare applications**, *Future Generation Computer Systems (Elsevier)*, Volume 162, 107477, (Q1, IF: 6.2), doi: https://doi.org/10.1016/j.future.2024.08.001.

14. Sudip Chandra Ghoshal, Md Maruf Hossain, Bishozit Chandra Das, **Palash Roy**, Md. Abdur Razzaque, Saiful Azad, Mohammad Mehedi Hassan, Claudio Savaglio, Giancarlo Fortino, **VESBELT: An energy-efficient and low-latency aware task offloading in Maritime Internet-of-Things networks using ensemble neural networks**, *Future Generation Computer Systems (Elsevier)*, Volume 161, 2024, pp. 572-585, (Q1, IF: 6.2), doi: https://doi.org/10.1016/j.future.2024.07.034.

13. Safiqul Islam, Mahadi Ahammed, N. A. Siddiquee, **Palash Roy**, Md. Abdur Razzaque, MM Hassan and Kashif Saleem, **A Hyper-Heuristic Approach for Quality of Experience Aware Service Placement Scheme in 5G Mobile Edge Computing**, *IEEE Access, vol. 12, pp. 72746-72765*, 2024, (Q1, IF: 3.9), doi: 10.1109/ACCESS.2024.3403721.

12. Shamyo Brotee, Farhan Kabir, Md. Abdur Razzaque, **Palash Roy**, Md. Mamun-Or-Rashid, Md. Rafiul Hassan, Mohammad Mehedi Hassan, **Optimizing UAV-UGV coalition operations: A hybrid clustering and multi-agent reinforcement learning approach for path planning in obstructed environment**, *Ad Hoc Networks (Elsevier), volume 160, 103519, 2024*,(Q1, IF: 4.8), doi: https://doi.org/10.1016/j.adhoc.2024.103519.

11. Shabab Murshed, Abu Shaikh Nibir, Md. Abdur Razzaque, **Palash Roy**, Ahmed Zohier Elhendi, Md. Rafiul Hassan, Mohammad Mehedi Hassan, **Weighted fair energy transfer in a UAV network: A multi-agent deep reinforcement learning approach**, *Energy (Elsevier), 292, 130527,* (Q1, IF: 9.0), doi: https://doi.org/10.1016/j.energy.2024.130527

10. Abdur Razzak, Md Tariqul Islam, **Palash Roy**, Md Abdur Razzaque, Md Rafiul Hassan, Mohammad Mehedi Hassan, **Leveraging Deep Q-Learning to maximize consumer quality of experience in smart grid**, *Energy (Elsevier), 290, 130165,* (Q1, IF: 9.0) (2023), doi: https://doi.org/10.1016/j.energy.2023.130165

9. Nawmi Nujhat, Fahmida Haque Shanta, Sujan Sarker, **Palash Roy**, Md. Abdur Razzaque, Md.Mamun-Or-Rashid, Mohammad Mehedi Hassan, Giancarlo Fortino, **Task offloading exploiting grey wolf optimization in collaborative edge computing**, *Journal of Cloud Computing (Springer), 13(1), 1-22* (Q1, IF: 4.4) (2023). doi: https://doi.org/10.1186/s13677-023-00570-z

8. Pranjal Kumar Nandi, Md. Rejaul Islam Reaj, Sujan Sarker, Md. Abdur Razzaque, Md. Mamun-or-Rashid, **Palash Roy**, **Task offloading to edge cloud balancing utility and cost for energy harvesting Internet of Things**, *Journal of Network and Computer Applications (Elsevier), Vol. 221, 103766.* (Q1, IF: 8.7) (2023), doi: https://doi.org/10.1016/j.jnca.2023.103766

7. Syeda Nabila Akter, Afsana Kabir Sinthia, **Palash Roy**, Md. Abdur Razzaque, Mohammad Mehedi Hassan, Francesco Pupo, Giancarlo Fortino, **Reputation Aware Optimal Team Formation for Collaborative Software Crowdsourcing in Industry 5.0**, *Journal of King Saud University: Computer and Information Sciences (Elsevier), 35(8), 101710* (Q1, IF: 6.9) (2023), doi: https://doi.org/10.1016/j.jksuci.2023.101710

6. Anika Tahsin, **Palash Roy**, Md. Abdur Razzaque, MD. MAMUN-OR-RASHID, MOHAMMAD SIRAJ, SALMAN A. ALQAHTANI, MD. RAFIUL HASSAN, MOHAMMAD MEHEDI HASSAN, **Energy Cooperation Among Sustainable base Stations in Multi-Operator Cellular Networks**, *IEEE Access, Volume: 11, pp. 19405-19417, 2023* (Q1, IF: 3.476).

5. Mohammad Shahjalal, Nusrat Farhana, **Palash Roy**, Md. Abdur Razzaque, Kuljeet Kaur, Mohammad Mehedi Hassan, **A Binary Gray Wolf Optimization algorithm for deployment of Virtual Network Functions in 5G hybrid cloud,** *Computer Communications, vol. 193, pp. 63-74,* (Q1, IF: 5.047), (2023) doi: https://doi.org/10.1016/j.comcom.2022.06.041.

4. Md. Rajibul Palas, Md. Rakibul Islam, **Palash Roy**, Md. Abdur Razzaque, Ahmad Alsanad, Salman AlQahtani, Mohammad Mehedi Hassan, **Multi-criteria handover mobility management in 5G cellular network,** *Computer Communications, vol. 174, pp. 81 – 91,* (Q1, IF: 5.047) (2022) doi: https://doi.org/10.1016/j.comcom.2021.04.020.

3. **Palash Roy**, Sujan Sarker, Md. Abdur Razzaque, Md. Mamun-or-Rashid, Mohammad Mehedi Hassan, Giancarlo Fortino, **Distributed Task Allocation in Mobile Device Cloud Exploiting Federated Learning and Subjective Logic,** *Journal of System Architecture (2020) (Q1, IF: 5.836)*, https://doi.org/10.1016/j.sysarc.2020.101972

2. **Palash Roy**, Sujan Sarker, Md. Abdur Razzaque, Mohammad Mehedi Hassan, Salman AlQahtani, Gianluca Aloi, Giancarlo Fortino, **AI-enabled Mobile Multimedia Service Instance Placement Scheme in Mobile Edge Computing,** *Computer Networks, vol. 182, (Q1, IF: 5.493)* doi: https://doi.org/10.1016/j.comnet.2020.107573.

1. **Palash Roy**, Anika Tahsin, Sujan Sarker, Tamal Adhikary, Md. Abdur Razzaque, Mohammad Mehedi Hassan, **User mobility and Quality-of-Experience aware placement of Virtual Network Functions in 5G,** *Computer Communications, vol. 150, pp. 367 – 377,* (Q1, IF: 5.047) doi: https://doi.org/10.1016/j.comcom.2019.12.005

Conference Paper

17. Shah Jalal, **Palash Roy,** Sudip Chandra Ghoshal, Subrato Basak, Belal Hoshan, Md. Abdur Razzaque and Saiful Azad, **Artificial Bee Colony Optimization for Delay and Cost Aware Task Scheduling in Serverless Computing Environment**, 2024 6th International Conference on Sustainable Technologies for Industry 5.0 (STI), 14-15 Dec, 2024, Dhaka, Bangladesh

16. Md. Abdullah Al Sami, Ibrahim Tanvir, Md. Abu Taief Siddique, **Palash Roy**, Md. Abdur Razzaque and Muhammad Aminur Rahaman, **Energy and Latency-Aware Optimal Task Allocation in Edge Computing Assisted Multi-UAV System**, 2024 6th International Conference on Sustainable Technologies for Industry 5.0 (STI), 14-15 Dec, 2024, Dhaka, Bangladesh. **[Best Paper Award]**

15. Mostakim Jihad, Mashraba Tasnim Rodshi, Abdullah Al Fahad, **Palash Roy,** Md. Abdur Razzaque, Mohammad Mehedi Hassani, **Quality of Experience Aware Task Offloading in Digital Twinning Vehicular Edge Computing**, *20th Annual International Conference on Distributed Computing in Smart Systems and the Internet of Things (DCOSS-IoT 2024), April 29 – May 1, 2024, Abu Dhabi, UAE*.

14. Sabiha Tasnim Sumona, Syed Sabbir Hasan, Abu Yousuf Tamzid, **Palash Roy**, Md. Abdur Razzaque and Redowan Mahmud, **A Deep Q-Learning Framework for Enhanced QoE and Energy Optimization in Fog Computing**, *20th Annual International Conference on Distributed Computing in Smart Systems and the Internet of Things (DCOSS-IoT 2024), April 29 – May 1, 2024, Abu Dhabi, UAE.*

13. Shariar Hossain Emon, MD Lotifur Rahman, Sumiya Siddika Omi, **Palash Roy**, Md. Abdur Razzaque, K. M. Shadman Wadith, Jargis Ahmed, **Energy Consumption Aware Delay Minimization for UAV Enabled Internet of Vehicle**, *2023 5th International Conference on Sustainable Technologies for Industry 5.0 (STI), 9-10 Dec, 2023, Dhaka, Bangladesh.*

12. Joy Munshi, Sumaya Sultana, Md. Jahid Hassan, **Palash Roy**, Md. Abdur Razzaque, and Syed Ahsanul Kabir, **Delay and Cost Aware Adaptive Deployment and Migration of Service Function Chains in 5G**, *10th International Conference on Networking, Systems and Security (NSysS 2023), December 21–23, 2023, Khulna, Bangladesh*.**[Best Student Paper Award]**

11. Sakhaouth Hossan, Farhan Mahmud, **Palash Roy**, Md. Abdur Razzaque, and Md. Mustafizur Rahman, **Energy and Latency-aware Computation Load Distribution of Hybrid Split and Federated Learning on IoT Devices**, *10th International Conference on Networking, Systems, and Security (NSysS 2023), December 21–23, 2023, Khulna, Bangladesh.*

10. Zeneya Sharmin, **Palash Roy**, Md. Abdur Razzaque, **User Quality of Experience and Profit Aware Task Allocation in Mobile Device Cloud**, *2023 International Symposium on Networks, Computers and Communications (ISNCC), Doha, Qatar, 2023, pp. 1-6.*

9. Amrin Karim, Jannatul Ema, Tasnia Yasmin, **Palash Roy**, Md. Abdur Razzaque, **Latency and Cost-Aware Deployment of Dynamic Service Function Chains in 5G Networks**, *2023 International Symposium on Networks, Computers and Communications (ISNCC), Doha, Qatar, 2023, pp. 1-6.*

8. Sudip Chandra Ghoshal, Md Maruf Hossain, Bishozit Chandra Das, **Palash Roy**, Md. Abdur Razzaque, **Trade-off Between Latency and Energy for Offloading Tasks in Maritime Internet of Things**, *2022 4th International Conference on Sustainable Technologies for Industry 4.0 (STI), 17-18 Dec, 2022, Dhaka, Bangladesh*.

7. Md. Daiyan Uddin Mozumder, Riaj Hosen, Md. Mamun Hossain, Md. Ahsan Habib, **Palash Roy**, Md. Abdur Razzaque, **Multiple Circular Ring-canals on the Starfish Routing Backbone in Wireless Sensor Networks**, *2022 4th International Conference on Sustainable Technologies for Industry 4.0 (STI), 17-18 Dec, 2022, Dhaka, Bangladesh*.

6. Sabikun Nahar Tanha, Sowpna Akter Mim, **Palash Roy**, Md. Abdur Razzaque, **Prediction of Energy Harvesting in Solar Powered Small Cell Networks**, *2021 3rd International Conference on Sustainable Technologies for Industry 4.0 (STI), 18-19 Dec, 2021, Dhaka, Bangladesh.*

5. Rushmita H. Chaity, **Palash Roy**, Md. Abdur Razzaque, M. Sadiquzzaman, **Enhancing Quality of Experience of 5G Users Exploiting Deep Q-Learning**, *2021 3rd International Conference on Sustainable Technologies for Industry 4.0 (STI), 18-19 Dec, 2021, Dhaka, Bangladesh. [Best Paper Award]*

4. M. Shahjalal, N. Farhana, **Palash Roy**, Md. Abdur Razzaque, **QoE Aware Optimal Deployment of Virtual Network Functions in 5G Hybrid Cloud**, *2021 3rd International Conference on Sustainable Technologies for Industry 4.0 (STI), 18-19 Dec, 2021, Dhaka, Bangladesh.*

3. S.M. Tanvir Rahman, A. K. Sinthia, S. Nabila Akter, **Palash Roy**, Md. Abdur Razzaque, **Reputation Aware Fair Worker Selection in Collaborative Software Crowdsourcing**, *2021 3rd International Conference on Sustainable Technologies for Industry 4.0 (STI), 18-19 Dec, 2021, Dhaka, Bangladesh.*

2. Amena Zahan Prithibi, Syeda Kanij Faria, **Palash Roy**, Md. Abdur Razzaque, **Network Lifetime Aware Routing Algorithm for Energy Harvesting Wireless Sensor Networks,** *2020 2nd International Conference on Sustainable Technologies for Industry 4.0 (STI), 19-20 Dec 2020, Dhaka, Bangladesh.*

1. Mozdaher Abdul Quader, Montaser Abdul Quader, **Palash Roy**, Md. Abdur Razzaque, **A Hybrid Approach for Routing Path Computation in Software Defined Ultra Dense Network,** *2020 2nd International Conference on Sustainable Technologies for Industry 4.0 (STI), 19-20 Dec 2020, Dhaka, Bangladesh.*

Projects

EasyML (Github Link) | (Demo Video)   *HTML, JavaScript, Python-Flask, Firebase*
SOFTWARE ENGINEERING LAB PROJECT   *2018*

EasyML is a web-based **machine learning tutorial** project. By this platform, users can pre-process their data and find tutorial of different ML algorithms like PCA Analysis, Dimension Reduction 2D and 3D, Logistic Regression Classifier, K Neighbors Classifier, Decision Tree Classifier, SVM Classifier and Random Forest Classifier. Furthermore, users also simulate these algorithms using arbitrary datasets.

Helping Hand   *HTML, JavaScript, Firebase*
INTERNET PROGRAMMING LAB PROJECT   *2019*

Helping Hand is a web based fund collection project by which users can able to prevent fraud donation collection using QR code.

Cardio (Github Link)   *HTML, JavaScript, Firebase*
SOFTWARE DESIGN PATTERN LAB PROJECT   *2018*

Cardio is a web application that lets the doctors, patients, sellers and dealers make an account and organize their prescription or medicine stock. Doctors can give suggestions to the patients and write prescription. Patient can download this prescription and offer medicines by this prescription to the sellers.

ExploreBD (Github Link) | (Demo Video)   *Java, Firebase*
APPLICATION DEVELOPMENT LAB PROJECT   *2017*

Explore BD is an android mobile app by which users face less problems in the new tourist spot. Users share their experience of a tourist place like hotel information of that place, total expenditure of that tour and users can create an event when they want to make a tour.

29 Card (Github Link)   *Java*
OBJECT ORIENTED PROGRAMMING LAB PROJECT   *2017*

This game is developed by JAVA socket programming. In this game we have used JAVA socket programming by which four players can attend in this game at the same time.

Pacman Reborn (Demo Video)   *C++*
STRUCTURED PROGRAMMING LAB PROJECT   *2016*

A desktop game developed by C++ and using SFML library.The goal of this game is to eat all foods and avoid getting eaten by ghosts. We have added some special features to make the game easier for player

MOOC Courses

Deep Learning Specialization by deeplearning.ai in Coursera [Certificate]
Topics Covered: Neural network, Hyperparamter Tuning, Regularization, Structuring Machine Learning Projects, Convolutional Neural Networks (CNN), Object Detection Algorithm, Recurrent Neural Network (RNN), Word2Vec, LSTM

Machine Learning by Prof Andrew Ng in Coursera [Certificate]
Topics Covered: Linear Regression, Logistic Regression, Bias and Variance, Neural Network, SVM, K-means clustering, PCA, Anomaly detection, Recommender Systems

Skills

Programming Languages	Python, Java, C/C++
Machine Learning Libraries	NumPy, Matplotlib, keras, pandas, scikit-learn
Web Programming	HTML, JavaScript, PHP
Database	MySQL, Firebase database
Software Tools	LATEX, Android Studio, Netbeans, Microsoft Visio, Pycharm, Codeblocks, Cisco Packet Tracer

Achievement

December, 2024	**Best Paper Award**, Have been awarded the Best Paper Award of the conference at the **2024 6th International Conference on Sustainable Technologies for Industry 5.0,** held at The Green University of Bangladesh.
December, 2023	**Best Student Paper Award**, Have been awarded the Best Student Paper Award at the **10th International Conference on Networking, Systems and Security (NSysS 2023)** held at The BUET.
December, 2022	**Outstanding Research Award**, Got **Outstanding Research Award** under the Faculty Research Publication Award 2022 from Center for Research Innovation and Transformation (CRIT), Green University of Bangladesh.
July, 2020	**Fellowship Scholarship**, Have been provided fellowship by **ICT Division, People's Republic of Bangladesh** for conducting extensive research work which can keep significant contributions in the ICT sectors of Bangladesh.
December, 2019	**Best Poster Paper Award**, Have been awarded the best poster paper award in **1st International Conference on Sustainable Technology for Industry(STI) 4.0, Dhaka, Bangladesh** for our research work **Mobility Aware Optimal Placement of Virtual Network Functions in 5G.**

Extracurricular Activities

IEEE Student Branch, Green University of Bangladesh (IEEE SB GUB)

Mentor   *November, 2021 - Present*

I am mentoring the students of IEEE SB GUB and IEEE CS SBC GUB for organizing the events in GUB by providing some guidelines.

IEEE Computer Society Student Branch Chapter, DU

Chair, General Secretary, and Treasurer   *March, 2019 - December, 2022*

I served as General Secretary, and Treasurer from March 2019 to October 2020, then I worked as a chair from Oct 2020 to Dec 2022. I have voluntarily organized several events in DU by this organization. I also organized several events in collaboration with the IEEE Computer Society, Bangladesh Chapter. I have also maintained the financial budget for those events.

Shabab Murshid Development Foundation (SMDF)

Teacher   *July 2017-December 2019*

I voluntarily taught Mathematics and English to underprivileged school children of classes 6-10 at **SMDF**.

Reference

Name	Dr. Md Abdur Razzaque
Designation	Professor & Chairman
Institution	Department of Computer Science and Engineering, University of Dhaka
Email	razzaque@du.ac.bd
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Name	Dr. Md Mamun Or Rashid
Designation	Professor
Institution	Department of Computer Science and Engineering, University of Dhaka
Email	mamun.rashid@gmail.com
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