

SUJAN SARKER

Assistand Professor, Department of Robotics and Mechatronics Engineering
University of Dhaka, Dhaka, Bangladesh.

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Summary

- Assistant professor at the Department of Robotics and Mechatronics Engineering, University of Dhaka
- Former assistant professor at the Department of Computer Science and Engineering, Ahsanullah University of Science and Technology (AUST)
- Completed Bachelor of Science (B.Sc.) and Master of Science (M.S.) from the Department of Computer Science and Engineering, University of Dhaka
- Research experience in Sensor networks, Mobile crowdsensing, Resource optimization in 5G cellular networks, and Machine Learning Applications.

Education

University of Dhaka

M.S. in Computer Science and Engineering (CSE)

Dhaka, Bangladesh

2016

GPA: 3.92 on a scale of 4.00 (1st position out of 20 students)

University of Dhaka

B.Sc. in Computer Science and Engineering (CSE)

Dhaka, Bangladesh

2013

GPA: 3.82 on a scale of 4.00 (5th position out of 65 students)

Teaching Experience

Assistant Professor

Department of Robotics and Mechatronics Engineering
University of Dhaka

October 2021 - Present

Lecturer

Department of Robotics and Mechatronics Engineering
University of Dhaka

November 2018 - September 2021

Assistant Professor

Department of Computer Science and Engineering
Ahsanullah University of Science and Technology (AUST)

April 2018 - October 2018

Lecturer

Department of Computer Science and Engineering
Ahsanullah University of Science and Technology (AUST)

October 2014 - March 2018

Industrial Experience

Trainee Software Engineer

Therap Services, LLC, Dhaka

April 2014 - June 2014

Other Experiences

Adjudicator

Bangabandhu Innovation Grant (BIG)

2021

ICT Division, Government of the People's Republic of Bangladesh

Branch Counselor

IEEE Student Branch

2021

University of Dhaka

Publicity Coordinator

IEEE Computer Society Bangladesh Chapter

2019

University of Dhaka

Student Advisor

Department of Robotics and Mechatronics Engineering

September 2019 - Present

University of Dhaka

Student Activity Coordinator

IEEE Robotics and Automation Society Bangladesh Chapter

2019

Trainer

Information Technology Engineers Examination (ITEE), funded by JICA

2019

Mentor

IEEE Student Branch

2019


University of Dhaka

Research Interests

Mobile crowdsensing, Edge computing, Internet of Things (IoT), Multi-agent Systems, Cyber Physical Systems, Human Robot Interaction (HRI), and Machine Learning Applications.

Publications

Journals.....

- Md. Tanvir Arafat, Mehedi Hasan Emon, **Sujan Sarker**, Md. Abdur Razzaque, Md. Mustafizur Rahmana, Mohammad Mehedi Hassan, "A Game of Trade between Quality and Cost for Worker Recruitment in Spatial Crowdsensing", *IEEE Internet of Things Journal* (Under first round review).
- Pranjol Kumar Nandi, Md. Rejaul Islam Reaj, **Sujan Sarker**, Md. Abdur Razzaque, Md. Mamun-or-Rashid, "Task Offloading to Edge Cloud Balancing Utility and Cost for Energy Harvesting IoT", *IEEE Transactions on Emerging Topics in Computing* (Under first round review).
- Nawmi Nujhat, Fahmida Haque Shanta, **Sujan Sarker**, Polash Roy, Md. Abdur Razzaque, Md. Mamun-or-Rashid, Mohammad Mehedi Hasan, "Task Execution Exploiting Grey Wolf Optimization in Collaborative Edge Computing", *IEEE Transactions on Services Computing* (Under first round review).
- Pranjol Kumar Nandi, Md. Rejaul Islam Reaj, **Sujan Sarker**, Md. Abdur Razzaque, Md. Mamun-or-Rashid, "Task Offloading to Edge Cloud Balancing Utility and Cost for Energy Harvesting IoT", *IEEE Transactions on Emerging Topics in Computing* (Under first round review).
- **Sujan Sarker**, Lafifa Jamal, Syeda Faiza Ahmed, Niloy Irtisam, "Robotics and artificial intelligence in healthcare during COVID-19 pandemic: A systematic review", *Robotics and Autonomous Systems*, Volume 146, 2021. (IF: 3.120) 

- Sifat Ahmed, Tonmoy Hossain, Oishee Bintey Hoque, Sujan Sarker, Sejuti Rahman, Faisal Muhammad Shah, “Automated COVID-19 Detection from Chest X-Ray Images : A High Resolution Network (HRNet) Approach”, *SN Computer Science* 2, no. 4 (2021): 1-17. [📄](#), “”,
- Sejuti Rahman, **Sujan Sarker**, Md Abdullah Al Miraj, Ragib Amin Nihal, A. K. M. Nadimul Haque, Abdullah Al Noman, “Deep Learning–Driven Automated Detection of COVID-19 from Radiography Images: a Comparative Analysis”, *Cognitive Computation* (2021). (IF:4.307) [📄](#)
- Md. Shahin Alom Shuvo, Md. Azad RahamanMunna, **Sujan Sarker**, Tamal Adhikary, Md. Abdur Razzaque, Mohammad Mehedi Hassan, Gianluca Aloï, Giancarlo Fortino, “Energy-efficient scheduling of small cells in 5G: A meta-heuristic approach”, *Journal of Network and Computer Applications*, Volume 178, 2021. (IF:5.570) [📄](#)
- Palash Roy, **Sujan Sarker**, Md. Abdur Razzaque, Md. Mamun-or-Rashid, Mohmmad Mehedi Hassan, Giancarlo Fortino, “Distributed task allocation in Mobile Device Cloud exploiting federated learning and subjective logic”, *Journal of Systems Architecture*, Volume 113, 2021. (IF: 2.552) [📄](#)
- Palash Roy, **Sujan Sarker**, Md. Abdur Razzaque, Mohammad Mehedi Hassan, Salman A. AlQah-tani, Gianluca Aloï, Giancarlo Fortino, “AI-enabled mobile multimedia service instance placement scheme in mobile edge computing”, *Computer Networks*, Volume 182, 2020. (IF: 3.111) [📄](#)
- 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*, Volume 150, 2020. (IF: 2.816) [📄](#)
- **Sujan Sarker**, MA Razzaque, MM Hassan, A Almogren, G Fortino, M Zhou, “Optimal Selection of Crowdsourcing Workers Balancing Their Utilities and Platform Profit”, *IEEE Internet of Things Journal*, vol. 6, no. 5, 2019. (IF: 9.936) [📄](#)
- MMA Pritom, **Sujan Sarker**, MA Razzaque, MM Hassan, MA Hossain, “A Multi-constrained QoS Aware MAC Protocol for Cluster-based Cognitive Radio Sensor Networks”, *International Journal of Distributed Sensor Networks*, vol. 11, no. 5, 2015. (IF: 1.151) [📄](#)

Book Chapters.....

- Tonmoy Hossain, **Sujan Sarker**, Sejuti Rahman and Md Atiqur Rahman Ahad, “Skeleton-Based Human Action Recognition on Large-Scale Datasets.”, *Vision, Sensing and Analytics: Integrative Approaches*. Springer, Cham, 2021. [📄](#)
- **Sujan Sarker**, Sejuti Rahman, Tonmoy Hossain, Syeda Faiza Ahmed, Lafifa Jamal, and Md. Atiqur Rahman Ahad, “Skeleton-Based Activity Recognition: Preprocessing and Approaches”, *Contact-less Human Activity Analysis*, Springer Nature Switzerland AG (2021). [📄](#)
- Sejuti Rahman, **Sujan Sarker**, A. K. M. Nadimul Haque and Monisha Mushtary Uttsha, “Deep Reinforcement Learning: A New Frontier in Computer Vision Research.”, *Vision, Sensing and Analytics: Integrative Approaches*. Springer, Cham, 2021. [📄](#)

Conferences.....

- Zahan Zib Sarowar Dhrubo, Md. Ashiful Islam Hridoy, Lafifa Jamal, **Sujan Sarker**, Mohammad Shidujaman, “Development of a Sign Language for Total Paralysis and Interpretation using Deep Learning”, *IEEE International Conference on Image Processing and Robotics (ICIPRoB)*, Negombo, Srilanka, March 2020.
- N Irtisam, R Ahmed, MM Akash, R Abdullah, **S Sarker**, S Rahman, L Jamal, “Pathfinder: A Fog Assisted Vision-Based System for Optimal Path Selection of Service Robots”, *2020 9th International Conference on Informatics, Electronics & Vision (ICIEV)*, Kitakyushu, Japan. Aug 2020.

- M. T. Abdullah, M. J. A. Sourov, S. Rahman and **S. Sarker**, “**Simulation of Pattern Formation of Swarm with Minimum Shape Parameters**”, 2020 Joint 9th International Conference on Informatics, Electronics & Vision (ICIEV) and 2020 4th International Conference on Imaging, Vision & Pattern Recognition (icIVPR), Kitakyushu, Japan, Aug 2020.
- S. Saha, M. A. Habib, **S. Sarker**, M. A. Razzaque and M. M. Rahman, “**Minimizing Execution Cost of User Application Codes in Mobile Device Cloud**”, 2019 International Conference on Sustainable Technologies for Industry 4.0 (STI), Dhaka, Bangladesh, 2019 (**Best Paper Award**).
- F. Huq, N. Sultana, **S. Sarker**, M. A. Razzaque and M. H. Kamal Tushar, “**Optimal Worker Selection for Maximizing Quality-of-Service of Online Food Delivery System**”, 2019 International Conference on Sustainable Technologies for Industry 4.0 (STI), Dhaka, Bangladesh, 2019.
- B Sultana, JF Katha, **S Sarker**, MA Razzaque, “**Multi-Mode Project Scheduling with Limited Resource and Budget Constraints**”, 2018 International Conference on Innovation in Engineering and Technology (ICIET), Bangladesh. Dec 2018 (**Best Paper Award**).
- MS Hossain, SMH Reza, **S Sarker**, MA Razzaque, “**Optimizing Deployment Period of Service Replication in 5G Edge Network**”, 2018 International Conference on Innovation in Engineering and Technology (ICIET), Bangladesh. Dec 2018.
- **S Sarker**, AK Nath, A Razzaque, “**Tradeoffs between sensing quality and energy efficiency for context monitoring applications**”, 2016 International Conference on Networking Systems and Security (NSysS), Bangladesh, Jan 2016.

Projects

Project Title: IHABOT: Intelligent Hospital Assistance Robot to Fight Contagion by Reducing Doctor-Patient Interaction

Funding Agency: Centennial Research Grant, University of Dhaka

Status: Ongoing

Role: Co-Principal Investigator

Duration: Jan 2021 – Dec 2021

Awards & Achievements

- **Innovative Asia Short-term Scholarship** for Short-term Program of Innovative Asia: Cutting-edge technologies on Robotics and AI organized by Japan International Cooperation Agency (JICA) in collaboration with Shibaura Institute of Technology, February 24, 2020 to March 7, 2020.
- **Best Paper Award** in 2018 International Conference on Innovation in Engineering and Technology (ICIET), 23-24 December 2018
- **ICT Fellowship** given by ICT Division, Government of the People’s Republic of Bangladesh for MSc. Study in Computer Science and Engineering, January 2015 – June 2016
- Bangladesh Government Board Scholarship for HSC Examination, Dhaka Board (Science Group), 2008
- Bangladesh Government Board Scholarship for SSC Examination, Dhaka Board (Science Group)
- Bangladesh Government General Scholarship in Junior Scholarship Examination, 2003
- Bangladesh Government Talent Pool Scholarship in Primary Scholarship Examination, 2000

Technical Skills

Languages: Python, C, C++, C#, JAVA, HTML5, PHP, XML, JavaScript, .net, 80x86 Assembly

Framework: CSS, OpenGL

Database: MySQL, SQLite, Oracle

Design Tools: NetBeans, Microsoft Visual Studio, PyCharm

Operating System: Windows, LINUX, Android

Hardware: ATMEL (AVR Programming)

Deep Learning Tools: Keras, PyTorch, TensorFlow

Others: PL/SQL, LaTeX

Professional Services

Program Committee/Reviewer.....

STI (2021), NSysS (2021), STI (2020), ICIET (2019)

Journal Reviewer.....

- IEEE Internet of Things Journal
- IEEE Access

Talk, Seminar & Workshop

- Invited Talk on – “IEEE highlighting the motto and benefits of IEEE membership” Host: IEEE Student Branch, University of Dhaka October 19, 2019
- Invited Talk on – “Membership Benefits and Formation Requirements of IEEE CS SBC” Host: IEEE Student Branch, University of Asia Pacific October 26, 2019
- Seminar on – “Research Methodology” August 02, 2019 Host: IEEE Computer Society SBC, RUET
- Seminar on – “Introduction to Optimization” June 19, 2019 Host: Department of Computer Science and Engineering, Green University of Bangladesh
- Workshop on – “Python Programming” March 20, 2019 Host: Department of Computer Science and Engineering, Green University of Bangladesh