Saydul Akbar Murad | *Graduate Research Assistant*

Temporary: 313 N 37th Ave, Apt 96, MS 39401, USA.
Permanent: Dokkhin Khil Chadok, Koiar Bil, Chakaria, Cox's Bazar, Bangladesh.
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Education

Doctor of Philosophy in Computer Science || *2023 - Current* Mississippi, USA
University of Southern Mississippi
Research Topic: Neural Signal-to-Text Translation: A Model for Deciphering Human Brain Activity

Master of Science in System Network and Security (By Research) || *2021 - 2023* Pahang, Malaysia
University Malaysia Pahang
Research Topic: A New Priority Rule Cloud Scheduling Technique That Utilizes Gaps to Increase the Efficiency of Jobs Distribution. Code
Milestone: *Best Publication Award*

Bachelor of Science in Information & Communication Engineering || *2016-2020* Noakhali, Bangladesh
Noakhali Science and Technology University
Project: An Automated System to Maintain Departmental Activities Over the Cloud: An Android Application Approach. Code

Research Interests

• ML • DL • Brain-Computer Interface (BCI) • Neuroscience • Cybersecurity

Publications

*Google Scholar statistics: Total of **244** citations as of February 19, 2024, with h-index = 7, i10-index = 6.*
*ResearchGate statistics: Total of **232** citations as of February 19, 2024, with h-index = 7.*

Selected Journal Articles

1. **Saydul Akbar Murad,** Nick Rahimi "Secure and Efficient Hierarchical P2P Fog Architecture: A Novel Approach for IoT". ***IEEE Internet of Things Journal***(2024), **WoS**, **Q1**, **IF:10.6**, IEEE

2. **Saydul Akbar Murad,** Zafril Rizal M Azmi, Abu Jafar Md Muzahid, Md Murad Hossain Sarker, M Saef Ullah Miah, MD Khairul Bashar Bhuiyan, Nick Rahimi, Anupam Kumar Bairagi "Priority based job scheduling technique that utilizes gaps to increase the efficiency of job distribution in cloud computing". ***Sustainable Computing: Informatics and Systems***(2024), **WoS**, **Q1**, **IF:4.5**, ELSEVIER

3. **Saydul Akbar Murad,** Zafril Rizal M Azmi, Abu Jafar Md Muzahid, MD Khairul Bashar Bhuiyan, Md Saib, Nick Rahimi, Nusrat Jahan Prottasha, Anupam Kumar Bairagi "SG-PBFS: Shortest Gap-Priority Based Fair Scheduling technique for job scheduling in cloud environment". ***Future Generation Computer Systems***(2024), **WoS**, **Q1**, **IF:7.5**, ELSEVIER

4. Nusrat Jahan Prottasha, **Saydul Akbar Murad,** Abu Jafar Md Muzahid and Md. Kowsher "A training-based algorithm for machine learning: Impact Learning". ***Journal of Computational Science***(2023), **WoS**, **Q1**, **IF:3.817**, ELSEVIER

5. Abu Jafar Md Muzahid, Syafiq Fauzi Bin Kamarulzaman, Dr Md Arafatur Rahman, **Saydul Akbar Murad** "Multiple Vehicle Cooperation and Collision Avoidance in Automated Vehicles: Survey and an AI-Enabled Conceptual Framework". ***Scientific Reports***(2023), **WoS**, **Q1**, **IF:4.996**, NATURE

6. Israt Jahan, K. M. Aslam Uddin, **Saydul Akbar Murad,** M. Saef Ullah Miah, Tanvir Zaman Khan, Mehedi Masud, Sultan Aljahdali, Anupam Kumar Bairagi "4D: a real time driver drowsiness detector using deep learning *Electronics* (2023), **WoS**, **Q2**, **IF:2.69**. MDPI

7. Chandra Shekhar Kundu, Apurba Adhikary, Md Shamim Ahsan, Abidur Rahaman, Md Bipul Hossain, Avi Deb Raha, **Saydul Akbar Murad**, Farid Ahmed "Design and analysis of performance parameters for achieving high efficient ITO/PEDOT: PSS/P3HT: PCBM/Al organic solar cell". *Journal of Optics*(2023), **WoS**, **Q3**, **IF:1.8**, 🔗 SPRINGER

8. **Saydul Akbar Murad,** Abu Jafar Md Muzahid, and Zafril Rizal Bin M Azmi "A Review on Job Scheduling Technique in Cloud Computing and Priority Rule Based Intelligent Framework". *JKSU - Computer and Information Sciences*(2022), **WoS**, **Q1**, **IF:6.9**, 🔗 ELSEVIER

9. **Saydul Akbar Murad,** ABU JAFAR MD MUZAHID and Apurba Adhikary "AI Powered Asthma Prediction Towards Treatment Formulation: An Android App Approach". *Intelligent Automation & Soft Computing*(2022), **WoS**, **Q3**, **IF:3.41**, 🔗 Tech Science Press

10. Apurba Adhikary, Joy Bhuiya, **Saydul Akbar Murad,** Md. Bipul Hossain, K. M. Aslam Uddin,MD Estihad Faysal, Abidur Rahaman, Anupam Kumar Bairagi "Performance Evaluation of Micro Lens Arrays: Improvement of Light Intensity and Efficiency of White Organic Light-Emitting Diodes". *PLOS ONE*(2022), **WoS**, **Q1**, **IF:3.752**, 🔗 Public Library of Science

11. Nusrat Jahan Prottasha, Abdullah Sami, MD Kowsher, **Saydul Akbar Murad,** Anupam Kumar Bairagi, Mehedi Masud, and Mohammed Baz "Transfer Learning for Sentiment Analysis Using BERT Base Supervised Fine Tuning". *Sensors*(2022), **WoS**, **Q1**, **IF:3.847**, 🔗 MDPI

Selected Conference Proceedings & Book Chapter

1. **Saydul Akbar Murad**, Nick Rahimi "Secure and Scalable Permissioned Blockchain using LDE-P2P Networks". In *2023 10th International Conference on Internet of Things: Systems, Management and Security (IOTSMS)*, 23-25 October 2023. 🔗 IEEE

2. **Saydul Akbar Murad**, Zafril Rizal M Azmi, Faria Jerin Brishti, Md Saib, Anupam Kumar Bairagi "Priority Based Fair Scheduling: Enhancing Efficiency in Cloud Job Distribution". In *2023 IEEE 8th International Conference On Software Engineering and Computer Systems (ICSECS)*, 25-27 August 2023. 🔗 IEEE

3. **Saydul Akbar Murad**, Nick Rahimi, Indranil Roy, Bidyut Gupta "Design of a New Secured Hierarchical Peer-to-Peer Fog Architecture Based on Linear Diophantine Equation". In *Proceedings of 38th International Conference on Computers and Their Applications*, April 2023. 🔗 EasyChair

4. AKM Bahalul Haque, Tasfia Nausheen, Abdullah Al Mahfuj Shaan, **Saydul Akbar Murad** "Security Attacks and Countermeasures in 5G Enabled Internet of Things". In the Book of *5G and Beyond*, August 2023. 🔗 SPRINGER

5. Apurba Adhikary, **Saydul Akbar Murad**, Md. Shirajum Munir, and Choong Seon Hong "Edge Assisted Crime Prediction and Evaluation Framework for Machine Learning Algorithms". In IEEE sponsored conference on *2022 International Conference on Information Networking (ICOIN)*, January 2022. 🔗 IEEE

6. **Saydul Akbar Murad,** Zafril Rizal Bin M Azmi, Nusrat Jahan Prottasha, and Md Kowsher "Computeraided system for extending the performance of diabetes analysis and prediction". In IEEE sponsored conference on *2021 International Conference on Software Engineering Computer Systems and 4th International Conference on Computational Science and Information Management (ICSECS-ICOCSIM)*, August 2021. 🔗 IEEE

7. **Saydul Akbar Murad,** Zafril Rizal M Azmi, Abu Jafar Md Muzahid, Md. Al-Imran. "Comparative Study on Job Scheduling Using Priority Rule and Machine Learning". In IEEE sponsored conference on *Emerging Technology in Computing, Communication and Electronics, (ETCCE)*, December 2021. 🔗 IEEE

8. Md. Kowsher, Anik Tahabilder, **Saydul Akbar Murad** "Impact learning: A Robust machine learning algorithm". In ACM sponsored conference on *ICCCM '20: Proceedings of the 8th International Conference on Computer and Communications Management*, August 2020. **(Best Paper Award)** 🔗 ACM

Computing Skills

○ Have strong knowledge on Deep Learning.
○ Have strong knowledge on Machine learning.
○ **Simulator:** OMNeT++, CloudSim, iFogSim.
○ **Programming language:** C, C++, Java, Python.
○ **Database:** MySQL.
○ **IDE:** Spyder, Colab, Jupyter Notebook, Code Blocks, Dev-C++, PyCharm.
○ Have strong knowledge on Android app development with Java.
○ Have a good Knowledge on P2P communication.

Academic Funding Appreciation & Awards

○ **Graduate Student Travel Award**, School of BEES & CAS, Amount $800   2023
○ **Best Researcher Award**, CAD Awards.   2023
○ **Kaneka Production**, supported by Padanan Industry, Malaysia. Grant amount: RM24000.   2023
○ **Best Publication Award**, University Malaysia Pahang   2023
○ **Master Research Scheme (MRS)**, funded by the MHE, Malaysia. Grant amount: RM21600.   2022
○ **FRGS GRANTS**, supported by the Ministry of Higher Education, Malaysia. Grant amount: RM84000. 2020
○ **Best Research Paper Award**, ICCCM, ACM.   2020
○ **3rd Place at NSTU Intra University Programming Contest**.   2016

Research & Project Experience

■ **P2P Communication in Fog Computing**
This project introduces a new integrated peer-to-peer (P2P) architecture within the fog layer. The proposed model is an advanced iteration of the existing 2-layer LDEPTH architecture, specifically tailored for P2P networks. In this sophisticated framework, networks are meticulously organized in a hierarchical manner.
🔗 GitHub

■ **Job Scheduling Technique in Cloud Computing**
In this project, a novel priority-based job scheduling method, designated as SG-PBFS, has been introduced and meticulously developed. Several experiments have been conducted to validate and refine this technique. The SG-PBFS method is innovatively designed, considering several critical factors, including CPU time, the timing of job arrivals, and the length of each job. 🔗 GitHub

■ **Department Management System Through an Android App**
This project involved developing a sophisticated Android application crafted meticulously using Java. The application is designed to serve as a comprehensive educational management tool, encompassing many functionalities. It allows for the efficient addition and management of various academic elements such as notices, detailed course information, and student profiles. 🔗 GitHub

■ **Impact learning Implementation**
Impact Learning is a robust ML algorithm that is widely used to achieve more advanced results on many machine-learning-related challenges. Impact learning is a supervised ML algorithm for resolving classification and regression problems. To install in ML environment just command **pip installs impact learning**

■ **An Intelligent Android to Predict Asthma**
Contributed to and engaged in research for the creation of a socially intelligent application aimed at developing predictive and treatment-planning systems for asthma. The work involved researching, designing, and implementing a machine-learning strategy focused on minimizing errors while executing tasks.

Job Experience

■ **January 2023 - Present || *Graduate Research Assistant* || USM, Mississippi, USA.**
School of Computer Science and Computer Engineering, The University of Southern Mississippi, USA. Working as a research assistant in a Cybersecurity lab. Here, my research focuses on human brain signal decoding into text.

■ **February 2021 – October 2022|| *Graduate Research Assistant* || UMP, Pahang, Malaysia.**
Faculty of Computing, Universiti Malaysia Pahang. Worked as a research assistant in a networking lab. My research topic was "A New Priority Rule Cloud Scheduling Technique that Utilizes Gaps to Increase the Efficiency of Job Distribution."

■ **August 2022 - November 2022 || *Lecturer* || IIUC, Chittagong, Bangladesh.**
Electronics and Telecommunication Engineering, International Islamic University Chittagong. Here, I took classes on Database Management Systems (DBMS).

■ **February 2020 – January 2021 || *Lecturer*|| National Model College, Noakhali, Bangladesh.**
Department of Information and Communication Technology, National Model College, Noakhali, Bangladesh. Here I took classes on Programming, Database Management systems, and Data Communication.

■ **February 2019 – March 2019 || *Industrial Trainee*|| BTCL Nandankanon, Chittagong, Bangladesh.**
BTCL Nandankanon, Chittagong branch. Industrial training at BTCL gives me an idea about how to deal with corporate life and knowledge about Telephone Line Connection, Optical fiber communication, structure, etc.

Reviewer

○ IEEE Internet of Things (2)
○ IEEE Access
○ Journal of Experimental & Theoretical Artificial Intelligence
○ Computer Systems Science and Engineering
○ Applied Intelligence and Computing (AIC 2023)
○ International Conference on Big Data IoT and Machine Learning (BIM 2023)
○ 4th International Conference on Communication and Intelligent Systems (ICCIS 2022)
○ IEEE Conference on Applied Intelligence and Computing (AIC 2022)

Workshops And Presentation

○ **Oral Presentation**, at 2023 10th International Conference on Internet of Things: Systems, Management and Security (IOTSMS).
○ **Oral Presentation**, at 8th International Conference on Software Engineering & Computer Systems 2023.
○ **Oral Presentation**, at 38th International Conference on Computers and Their Applications, USA.
○ **Oral Presentation**, at National Conference for Postgraduate Research (NCON-PGR), 2022, UMP, Malaysia.
○ **Oral Presentation**, at 2021 Emerging Technology in Computing, Communication, and Electronics (ETCCE), Dhaka, Bangladesh.
○ **Oral Presentation**, at 7th INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING COMPUTER SYSTEM (ICSECS – 2021), UMP, Pahang, Malaysia.

Professional Training

○ Research writing skill, EMK Center (2021)
○ Data Science with Python (Part 1), Maker Lab, EMK Center (2020)
○ Data Science with Python (Part 2), Maker Lab, EMK Center (2020)
○ Android Application Development- Java, SEIP under Basis Institute of Technology and Management (2019)
○ Android Application Development, LICT, Bangladesh (2016)