Proceedings of the International Conference on Industrial Engineering and Operations Management

Publisher: IEOM Society International, USA DOI: 10.46254/BA08.20250000

Published: December 20, 2025

Electromyography Actuated Full Arm Exoskeleton for Restoring Upper Limb Mobility

Syeda Humyra Siddika

Mechanical Engineering Department Shahjalal University of Science and Technology Sylhet, Bangladesh syedahumyrasiddika@gmail.com

Sadman Bin Zaman

Mechanical Engineering Department Shahjalal University of Science and Technology Sylhet, Bangladesh sadmancpscmsadman@gmail.com

Shahriar Zaman Rafat

Mechanical Engineering Department Shahjalal University of Science and Technology Sylhet, Bangladesh shahriarzamanrafat@gmail.com

Ms. Nazmun Nessa Moon

Associate Professor

Department of Computer Science and Engineering
Daffodil International University
Dhaka, Bangladesh
moon@daffodilversity.edu.bd

Paper Title

- 18 font with bold and center justification
- All titles should be in standard mixed case, where the first letter of each word is capitalized and followed by lower case letters, as noted below:

Lean Manufacturing, Operations Management and Six Sigma Applications

Authors and Affiliations

- Author name 12 font with bold and center justification
- Affiliation 12 font with center justification
- Authors with same affiliation should be together

Proceedings of the 8th IEOM Bangladesh International Conference on Industrial Engineering and Operations Management, Dhaka, Bangladesh, December 20-21, 2025

- Authors with different affiliation should be listed separately with one space in between
- Email can be added for each author
- Single space between affiliation and abstract title

Abstract (12 font)

Use font size 10 for the abstract text. Abstract ONLY submission could be up to 250 words. Abstract Ab

- Abstract title 12 font with bold and center justification
- Abstract text 10 font with full justification
- Not exceeding 250 words.

Keywords (12 font)

Keyword 1, Keyword 2, Keyword 3, Keyword 4 and Keyword 5. (10 font)

• No more than five keywords (10 font)

Page Layout

- 8 1/2" X 11" paper
- All margins: 1.00"
- Full justification
- Times New Roman font
- Maximum 250 words for abstract only submission
- Conference name as a header and copyright information as footer must be used. Copyright information implies that IEOM Society International has right to publication the paper

Acknowledgments

Add acknowledgement if need

Biography / **Biographies** (for single author – biography and multiple authors- biographies) – 12 font bold

- Include bio of each author at the end of the abstract, 10 font
- Limited to 250 words

Biographies

Syeda Humyra Siddika is an undergraduate student in the Department of Mechanical Engineering at Shahjalal University of Science and Technology (SUST), Sylhet, Bangladesh. Besides academic, her research interests include robotics, automation, materials, fluid and AI. She has also participated in various co-curricular activities, serving as campus ambassador through many organizations. Beyond academics, she is passionate about learning and using technology in real life to solve challenges. she is currently doing research on renewable energy after her recent work on the EMG-controlled Exoskeleton.

Sadman Bin Zaman is a Mechanical Engineering Undergraduate Student at Shahjalal University of Science and Technology. He has trained under Bangladesh Industrial Technical Assistance Centre. He has done in work in

Proceedings of the 8th IEOM Bangladesh International Conference on Industrial Engineering and Operations Management, Dhaka, Bangladesh, December 20-21, 2025

electromechanical systems and nerve-computer interface systems. long side pursuing coursework, Sadman is currently working on Al integrated and guided mechanical system implementation in renewable energy sectors. Beyond this, he is enthusiastic about high entropy metal alloys, rocket propulsion, orbital mechanics and AESA radar systems.

Shahriar Zaman Rafat is a Bangladeshi engineering enthusiast from Chittagong, currently pursuing his studies in the Department of Mechanical Engineering at Shahjalal University of Science and Technology (SUST). Alongside his academic journey he has developed a strong interest in Blockchain Technology and gathered insightful hands-on experiences. His technical curiosity extends deeply into areas of mechanical and thermal sciences, with research interest in thermal management, phase change material (PCM) and control engineering with machine learning.

Ms. Nazmun Nessa Moon is an Associate Professor in the Department of Computer Science and Engineering at Daffodil International University, Dhaka. She earned her MSc in ICT from Bangladesh University of Engineering and Technology (BUET), BSc in Computer Science and Engineering from Rajshahi University of Engineering and Technology (RUET) and PhD Researcher in BUET. Her research focuses on Data Mining, Machine Learning, IoT, Graph Algorithm Bioinformatics and Artificial Intelligence. She has published 17 Conference papers, 10 Journal papers and one book, also contributes to the several published books. In DIU, she teaches Computer Graphics, Microprocessor and Assembly Language, Theory of Computation, Digital Electronics, RDBMS, Algorithm and supervises students. In addition to her academic work, she received multiple scholarships and awards.