MUZAFFER HOSEN AKANDA

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EDUCATION

Master of Science in Engineering (Mechanical & Manufacturing Engineering)
Texas State University, San Marcos, Texas | 2021

Bachelor of Science in Mechanical Engineering
Rajshahi University of Engineering & Technology (RUET), Bangladesh | 2010

TEACHING EXPERIENCE

Graduate Instructional Assistant | Texas State University | 2019–2021

- Assisted faculty in teaching undergraduate engineering courses and laboratory sessions.
- Guided students in engineering problem-solving, data collection, experimentation, and technical analysis.
- Developed laboratory exercises involving machinery dynamics, vibration analysis, and experimental testing.
- Installed and commissioned instructional laboratory equipment for engineering education.
- Assisted with grading assignments, laboratory reports, projects, and examinations.
- Mentored students individually and in teams to improve academic performance and technical competency.

RELEVANT INDUSTRIAL EXPERIENCE

Equipment Engineer | Tesla, Inc. | 2025–Present

- Designed and implemented ergonomic manufacturing solutions to improve operator efficiency and usability.
- Applied human-centered design principles to reduce maintenance effort and operational errors.
- Collaborated with multidisciplinary teams to improve human-machine interactions and workplace performance.
- Developed technical documentation, work instructions, and engineering standards.

Equipment Engineer | Samsung Austin Semiconductor | 2023–2025

- Utilized statistical analysis and data-driven methodologies to evaluate system performance and identify root causes.
- Conducted process optimization projects involving operator interaction with complex manufacturing systems.
- Improved system reliability through data collection, analysis, and continuous improvement initiatives.

Engineering Manager | LTD Materials LLC | 2021–2023

- Led engineering projects involving workflow optimization, process improvement, and system usability.
- Conducted DFMEA and PFMEA analyses to identify and reduce human and system errors.
- Developed and delivered technical training programs for engineers, technicians, and operators.
- Mentored engineering personnel in problem-solving, data analysis, and project execution.

RESEARCH & TECHNICAL EXPERTISE

- Human Factors Engineering
- Ergonomics and Human-Centered Design
- Usability Evaluation Methods
- Experimental Design and Research Methods
- Data Collection, Statistical Analysis, and Interpretation
- Human Error Analysis
- Human-Machine Interaction
- Engineering Research and Technical Writing
- SolidWorks, AutoCAD, MATLAB, Excel
- Root Cause Analysis and Continuous Improvement

PUBLICATIONS

1. **Akanda, M. H.** (2021). Predict, create, control, and maintain optimum living conditions for fish and plants of an indoor aquaponics system.
2. **Kallagunta, H. S. P., Tate, J. S., Beall, G. W., Panta, S., Beldeque, M., Akanda, M., & others.** (2020). Effects of Surface Treatment of Alumina Nanofibers on Mechanical and Thermal Properties of Polyester E-Glass Composites. *SAMPE 2020 Virtual Series | Multifunctional Materials and Structures*, 11.
3. **Hassan, M., Hosen, M., Islam, M. K., & Khatun, M. S.** (2021). Performance analysis and enhancement of GE LM6000PC gas turbine-based power generation in Bangladesh; an approach to increase the offline water wash cycle interval. *AIP Conference Proceedings*, 2324(1), 060004.
4. **Das, A., Peu, S. D., Hossain, M. S., Akanda, M. A. M., Salah, M. M., Akanda, M. M. H., & others.** (2023). Metal oxide nanosheet: synthesis approaches and applications in energy storage devices (batteries, fuel cells, and supercapacitors). *Nanomaterials*, 13(6), 1066.
5. **Zohra, F., Akanda, M., & Asiabanpour, B.** (2021). The effect of macroscopic and microscopic patterns of stainless-steel surface on the efficiency of dropwise condensation and precipitation. *International Journal of Engineering Materials and Manufacture*, 6(3), 163-169.
6. **Morshed, M., Hosen, M., & Asaduzzaman, M.** (2021). A Review on pH, DO and BOD of the Sitalakhya River during Last Four Decades. *Asian Journal of Fisheries and Aquatic Research*, 14(1), 25-42.

CERTIFICATIONS

- Project Management Professional (PMP)®
- Lean Six Sigma Black Belt
- HAAS Basic Mill Operator
- Certified Boroscopic Inspector

Teaching Interests: Human Factors Engineering, Ergonomics, Human-Machine Systems, Engineering Design, Experimental Methods, Engineering Graphics, Manufacturing Processes, and Engineering Research Methods.