



Atam kumar Menghwar

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ABOUT ME

I am an Industrial and Management Engineer with a strong foundation in manufacturing systems, quality management, and digital transformation. Currently completing dual Master's degrees in Engineering Management and Innovation & Product Management, I bring a blend of academic depth and applied experience. I aim to contribute to advanced research in smart manufacturing and future-ready industrial systems.

EDUCATION AND TRAINING

[17/09/2024 – 10/09/2025]

Master's Degree (Dual Master's One-Year) in INNOVATION AND PRODUCT MANAGEMENT [Grade: 1.81 (Austrian Grading System)]

University of Applied Sciences Upper Austria, Wels Campus <https://fh-ooe.at/en>

City: Wels | **Country:** Austria | **Level in EQF:** EQF level 7

[10/2023 – Current]

Master's Degree (Two Years) in ENGINEERING MANAGEMENT

Università della Calabria <https://www.unical.it/>

City: Arcavacata, Rende (CS) | **Country:** Italy | **Level in EQF:** EQF level 7

[10/2018 – 11/2022]

Bachelor's Degree (Four Years) in INDUSTRIAL ENGINEERING AND MANAGEMENT [CGPA : 3.76/4.00]

Mehran University of Engineering & Technology <https://www.muet.edu.pk/>

City: Jamshoro, Sindh | **Country:** Pakistan | **Level in EQF:** EQF level 6

[05/2016 – 05/2018]

High School Diploma (Intermediate) [Grade: 784/1100]

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Government Higher Secondary School

City: Kaloi, Tharparker | **Country:** Pakistan | **Level in EQF:** EQF level 4

PUBLICATIONS

[2022]

Analysis of Risk Factors for Work-related Musculoskeletal Disorders: A Survey Research

Authors: Atam Kumar, Hafiz Karim Bux Indher, Ali Gul, Rab Nawaz | **Journal Name:** I. J. Engineering and Manufacturing | **Volume, Issue and Pages:** Vol.12, No.6, pp. 1-13 | **Publisher:** MECS Press

[2022]

Students' Musculoskeletal Disorders Assessment Using RULA

Authors: Atam Kumar, Bharat Lal | **Journal Name:** I. J. Education and Management Engineering | **Volume, Issue and Pages:** Vol.12, No.6, pp. 1-10 | **Publisher:** MECS Press

[2024]

Reduction of Lean Wastes by Using Value Stream Mapping: A Case Study of Textile Company in Pakistan

Authors: Atam Kumar, Ramesh Kumar and Ali Gul | **Journal Name:** International Journal of Supply Chain Management | **Volume, Issue and Pages:** Vol.9, Issue 2, No.3, pp 37 - 61, 2024 | **Publisher:** International Peer Reviewed Journals and Books

[2024]

Design Modification and Fabrication of An Active Solar Dryer

Authors: Danesh Kumar Meghwar, Atam Kumar | **Journal Name:** I. J. Engineering and Manufacturing | **Volume, Issue and Pages:** Vol.14, No.2, pp. 57-73 | **Publisher:** MECS Press

[2024]

Identify Main Challenges in Human Resource Departments and Suggest the Remedial Actions: Case Study

Authors: Atam Kumar, Hafiz Karim Bux Indher, Rab Nawaz | **Journal Name:** International Journal of Industrial Engineering and Operational Research | **Volume, Issue and Pages:** Vol. 6 Issue 1,p 79-95 | **Publisher:** Behineh Gostar Sanaye Arman

Evaluating the Role of IT Innovations in Enhancing Logistics and Supply Chain Management

[2024]

Effectiveness: A Review Paper

Authors: Atam Kumar, Muhammad Danish | **Journal Name:** Saudi Journal of Engineering and Technology | **Volume, Issue and Pages:** Vol. 9 Issue 7, p 344-357 | **Publisher:** Scholars Middle East Publishers

Productivity Improvement of Assembly Line-by-Line Balancing Technique: Case Study Textile Manufacturing Company Karachi Pakistan

[2024]

Authors: Atam Kumar, Ramesh Kumar | **Journal Name:** South Asian Journal of Social Studies and Economics | **Volume, Issue and Pages:** Vol. 21, Issue 5, p 54-72 | **Publisher:** Sciencedomain International

[2026]

HOW INDUSTRY 4.0 AFFECTED PROSTHESES MANUFACTURING

Authors: Atam Kumar Menghwar, Miskeen Ali | **Journal Name:** Journal of Innovations in Business and Industry | **Volume, Issue and Pages:** Vol. 04 Issue 01, p55-68 | **Publisher:** aspur

SKILLS

Technical Skills

MS Office (MS Word, MS Excel, MS Powerpoint, MS Outlook, MS Teams, MS Project, MS Sharepoint) | Minitab (Statistical Programs) | MATLAB/SIMULINK: Basic | Python Language-Basic Knowledge | Tecnomatix Plant Simulation - Basics | Data Science | Data Collection, Data Processing, Data Analysis, Data Visualisation | Research Skills | JavaScript (Node-RED) | Technical Writing

Social Skills

Evaluate Social Work Program | Assess Social Work Students | Demonstrate Leadership in Social Service Cases | Work with Social Service Users in a Group | Supervise Students in Social Services | Support the Positiveness of Youths

Professional Skills

Good presentation, Communication and Time management skills | Good Leadership, Teamwork, and Problem Solving skills | Good teaching skills (Communicative) | Analytical Thinking

WORK EXPERIENCE

APSAC Cant

City: Badin, Sindh | **Country:** Pakistan

[02/2023 – 07/2023]

Senior Teacher

- Delivered comprehensive lessons, fostering an engaging and productive learning environment.
- Facilitated student development by implementing effective teaching strategies.
- Enhanced personal and professional knowledge through continuous reflection and adaptation of teaching methods.

Brimful Talented Academy,

City: Qasimabad Hyderabad, | **Country:** Pakistan

[09/2022 – 01/2023]

Senior Teacher

- Delivered comprehensive lessons, fostering an engaging and productive learning environment.
- Facilitated student development by implementing effective teaching strategies.
- Enhanced personal and professional knowledge through continuous reflection and adaptation of teaching methods.

Quality Enhancement Cell (QEC), MUET

City: Jamshoro, Sindh | **Country:** Pakistan

[06/2022 – 07/2022]

Internee

- Assisted in evaluating and ensuring compliance with institutional quality standards.
- Gained an in-depth understanding of university policies, educational procedures, and administrative operations.
- Conducted reviews on academic and non-academic departments, including exams, sports, library services, transportation, and human resource management

Artistic Milliners Pvt. Ltd.,

City: Karachi, Sindh | **Country:** Pakistan

[12/2020 – 01/2021] **Internee**

- Supported production line optimization through line balancing, capacity calculations, and Standard Allowed Minutes (SAM) assessments.
- Applied ergonomics principles to enhance workplace safety and efficiency.
- Gained hands-on experience with lean manufacturing tools, including Key Performance Indicators (KPIs), Kanban, 5S, and waste minimization techniques.

Yunus Textile Mills Pvt. Ltd

City: Karachi, Sindh | **Country:** Pakistan

[06/2022 – 07/2022] **Internee**

- Supported production line optimization through line balancing, capacity calculations, and Standard Allowed Minutes (SAM) assessments.
- Applied ergonomics principles to enhance workplace safety and efficiency.
- Gained hands-on experience with lean manufacturing tools, including Key Performance Indicators (KPIs), Kanban, 5S, and waste minimization techniques.

Mindstorm Engineering (Virtual)

City: Karachi, Sindh | **Country:** Pakistan

[08/2021 – 09/2021] **Internee**

- Acquired foundational knowledge of Industry 4.0 and Industrial Internet of Things (IIoT) technologies.
- Explored implementation strategies for smart manufacturing systems and industrial automation.

ZIMCO INTERNATIONAL CORP (Virtual)

City: Karachi, Sindh | **Country:** Pakistan

[04/2022 – 05/2022] **Internee**

- Gained insights into power systems architecture and the role of IIoT in enhancing energy efficiency and performance monitoring.

ZIMCO INTERNATIONAL CORP (Virtual)

City: Karachi, Sindh | **Country:** Pakistan

[07/2022 – 08/2022] **Internee**

- Developed a thorough understanding of supply chain and logistics operations.
- Learned key processes including procurement planning, inventory management, and distribution strategies to optimize supply chain performance.

Jamshoro Power Company Limited (GENCO -1),

City: Jamshoro, Sindh | **Country:** Pakistan

[02/2022 – 03/2022] **Internee**

- Observed power plant operations, including generation, transmission, and energy utilization processes.
- Studied critical mechanical components such as boilers, steam turbines, and condensers, enhancing knowledge of thermodynamic systems.
- Gained an understanding of power plant electrical systems, including generator operations, transformer functions, and control system mechanisms.

District Administration Hyderabad & TIME Institute

City: Hyderabad, Sindh | **Country:** Pakistan

[06/2021 – 08/2021] **Data analyst**

- Supported COVID-19 data management operations as a data entry operator.
- Developed proficiency in data entry and database management, ensuring accuracy and efficiency in information processing.

LANGUAGE SKILLS

Other language(s):

Sindhi (Regional)

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Urdu (National)

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

English (Professional)

LISTENING C1 READING B2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PROJECTS

Analysis of Risk Factors for work-related Musculoskeletal Disorders: A Survey Research

[01/2022 – 10/2022]

[Bachelor's Degree Thesis]

- Conducted a comprehensive quantitative research study on the prevalence and risk factors of work-related musculoskeletal disorders (WMSDs) among professionals in industrial, educational, and healthcare sectors.
- Designed and implemented an online survey incorporating socio-demographic, psychological, occupational, and biomechanical risk factors to collect data from 116 participants.
- Performed advanced statistical analyses including descriptive statistics, correlation, and ANOVA tests to identify significant associations and validate hypotheses using Excel.
- Developed and validated a conceptual regression model linking risk factors with musculoskeletal symptoms, contributing to occupational health and safety research.
- Delivered actionable recommendations aligned with Sustainable Development Goal 3 (Good Health and Well-being) to improve workplace ergonomics and reduce WMSD prevalence.

A Causal Digital Twin Framework for Sustainable Decision Making in Smart Manufacturing

[31/01/2025 – 10/09/2025]

Systems [Master's Degree Thesis]

- Developed a four-layer Causal Digital Twin Framework (CDTF) integrating real-time data, AI-based predictions, and causal inference to support sustainable decision-making in smart manufacturing.
- Designed and implemented a real-time monitoring system using TimescaleDB and Grafana to track and analyze operational energy data from a 3D printer use case.
- Applied machine learning (XGBoost) for Remaining Useful Life (RUL) prediction and causal inference techniques to isolate actionable drivers of energy optimization.
- Conducted rigorous model validation using OLS regression diagnostics (residual analysis, VIF, Durbin-Watson, HAC correction) to ensure robustness of causal relationships.
- Proposed a replicable framework for integrating digital twins with sustainability goals, offering strategic insights aligned with Industry 4.0 and SDG 9 (Industry, Innovation, and Infrastructure).

VOLUNTEERING

[09/2020 – 01/2023]

Founder and Vice President [Engineers Corner (Local Society)]

MUET Jamshoro, Sindh, Pakistan

[09/2020 – 04/2022]

Coordinator of Volunteers (Student Organization) MUET Jamshoro, Sindh, Pakistan

[2017 – 2023]

Volunteer and Supervisor (Local Youth Forum) Village (Tharparker, Sindh, Pakistan)

[08/2021 – 12/2022]

Supervisor (Engineering Testing Service) Hyderabad, Sindh, Pakistan

SHORT COURSES

[06/2021 – 09/2021]

Three-months Project Management Course at TIME Institute, Hyderabad, Sindh, Pakistan

[03/2022 – 09/2022] **Six-months Inspection and Quality Control course at ORIC, MUET Jamshoro, Sindh, Pakistan**

[02/2021 – 05/2021] **Three-months training of Creative Writing, AutoCAD at Digi Skills Training Program (Virtual) Pakistan**

CERTIFICATIONS

One-day seminar "Industry-Academia Dialogue forum on Industry 4.0"

Certificate of participation in a one-day workshop on "Peace, Tolerance, and Emotional Intelligence"

Certificate of completion of the online Workshop on "Industrial Automation and Industrial IoT"

Certificate of participation in the online webinar on "Data Science with Machine Learning"

Certificate of participation in the virtual panel discussion "Leading my Student Branch to Success."

Certificate of "Six Sigma Yellow Belt Exam" at 6sigmastudy Targeting success (online)

MAJOR COURSE WORK

Engineering

- Manufacturing Processes
- Ergonomics (Human Factors)
- Advanced Manufacturing
- Smart Manufacturing
- Digital and Smart Factory
- Industrial Automation
- Augmented and Virtual Reality
- Model-Based Engineering

Management

- Project Management
- Innovation Management
- Logistics and Supply Chain Management
- Production Management

RECOMMENDATIONS

Name: Dr. Peter Hehenberger Supervisor

Professor of Integrated Product Development at University of Applied Sciences Upper Austria, Wels

Email: peter.hehenberger@fh-wels.at

Name: Dr. Muhammad Saad Memon Professor

Professor of Industrial Engineering and Management at Mehran University of Engineering and Technology, Jamshoro Sindh Pakistan

Email: saad.memon@faculty.muett.edu.pk

Name: Dr. Miskeen Ali Professor

Professor of Industrial Engineering and Management at Mehran University of Engineering and Technology, Jamshoro Sindh Pakistan

Email: miskeen.gopang@faculty.muett.edu.pk