

IISE Annual Conference and Expo 2024

Montreal, Canada
18-21 May 2024

Part 1, Book A

Editors:

A. Brown-Greer

C. Contardo

J.-M. Frayret

ISBN: 979-8-3313-0343-3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by Institute of Industrial & Systems Engineers (IISE)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact Institute of Industrial & Systems Engineers (IISE)
at the address below.

Institute of Industrial & Systems Engineers (IISE)
3577 Parkway Lane, Suite 200
Norcross, GA 30092
USA

Phone: (770) 449-0460
Fax: (770) 441-3295

www.iise.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1, BOOK A

Healthcare Facility Capacity Optimization During COVID-19 Pandemic Using Epidemiological Models and Mathematical Modeling	1
<i>Seyedreza Abazari, Onur Alisan, Omer Arda Vanli, Eren Erman Ozguven</i>	
The Rise in Private Brands: A Supply Chain Perspective.....	7
<i>Eevee Murdock, Ethan Eichten, Tiffany Chang, Kerry Fung, Mohamed Awwad</i>	
Optimizing Operations Manager Performance: A Data-Driven Approach at a Post-Production Facility.....	13
<i>Donald Fleming, Kareem Badr</i>	
Discovering Puerto Rico Roads Profile Influencing Traffic Fatalities	19
<i>Yesenia Cruz Cantillo, Carlos González Oquendo</i>	
Designing Manufacturing Enterprises System for Industry 4.0.....	25
<i>Ibrahim Garbie, Muhammad Garbie</i>	
A Multiple Criteria Decision Analysis for the Foreign Direct Investment in the Dominican Republic and Central America Free Trade Agreement DR-CAFTA	31
<i>Levis Cabrera-Abinader, Edwin Hernandez</i>	
A Human-Centered Assessment of Andon Boards in an Automotive Manufacturing Environment	37
<i>Duxiao Hao, Zachary Shaw, Farah Altarazi, Carrie Hathaway, Alison Helmetsie, Darby O'Keefe, Stephanie Tulk Jesso</i>	
Relationship Between Conventional Workload Surrogates and VACP Assessments in Emergency Medical Services	43
<i>Jenna Ercolani, Laila Cure, Paul Misasi</i>	
High-Dimensional Process Monitoring When a Few Phase I Samples Are Available	49
<i>Mohsen Ebadi, Shoja Chenouri, Stefan Steiner</i>	
Facilitating Access to Effective Medical Checklists: A Literature Review and Dataverse Expansion Project.....	55
<i>Izhaan Junaid, Matthew Chambers, Nicole Hicks, Myrte de Alfred</i>	
Immersive Occupational Safety and Health Training: A Modular Virtual Reality-Based Process and Platform.....	61
<i>Ali Barenji, Jorge Garcia, Benoit Montreuil</i>	
A Hybrid Structure-Based Semantic Segmentation Method for Industrial Measurement of Form and Position Tolerance on Chip Sockets	66
<i>Huangyi Qu, Yi Cai</i>	
Applying Lessons Learned Throughout the Project Lifecycle	73
<i>Rochelle Cook</i>	
Reliability Engineering – Key for Designing and Building Safe, Successful, and Affordable Space Systems.....	77
<i>Fayssal Safie, Sam Gholston</i>	

Optimizing Collaboration: An Integrated Approach to Cost and Carbon Emission-Based Incentive Allocation in LTL Shipping.....	83
<i>Peter Young Atteh, Saurav Kumar Dubey</i>	
Fast Dual Subgradient Optimization of Stochastic Kernels with Application to Forward-Backward Stochastic Differential Equations	89
<i>Zhengqi Lin, Andrzej Ruszczy' Nski</i>	
Computing Inefficiency of Service Networks Under Random Failures	95
<i>Ashish Chandra</i>	
Validation of Advanced Macro Button Toolbar System for Radiologist Report Composition	101
<i>Brennan Chow, Jill Speece, Stephen Holtzman</i>	
A Comparison of Logistics Routes in America: The Corridors Cases.....	107
<i>Maximiliano González-Giorguli, Araceli Zavala</i>	
Case Study – Breakthrough Performance with Lightning Speed Lean.....	113
<i>Hannah Dearman-So, Pierce Gruber, Lawrence Nelson, Castor Service, Audrey Vo</i>	
Infrastructure Investments for Improving Arctic Emergency Response Across Multiple Man-Made Hazards.....	119
<i>Mustafa Can Camur, Thomas C. Sharkey, Abdelrahman Ismael</i>	
Multi-Criteria Clinic Allocation in Massachusetts to Reduce Access to Healthcare Disparities	125
<i>Yukti Kathuria, Muge Capan, Jessica Boakye, Chaitra Gopalappa</i>	
Build, Experiment, Learn: Promoting Curiosity and Creativity While Learning DOE	131
<i>Nadiye O. Erdil</i>	
Filament Width Control By Extrusion Pressure and Solid Load of Nano-Fiber Filled Alginate-Alginategelatin Approach Hybrid Hydrogel: An Analytical.....	137
<i>Rokeya Sarah, Ahasan Habib</i>	
A Framework for Carbon Accounting for Sustainable Supply Chains Using Blockchain, Internet of Things, and Artificial Intelligence.....	143
<i>Pratyush Kumar Patro, Adolf Acquaye, Raja Jayaraman, Khaled Salah</i>	
Interdisciplinary Collaboration for Sustainable Innovation: A Systematic Review of Open Innovation and SDGs	149
<i>Lisandro João De Vargas, Andre Luis Korzenowski</i>	
Classification for Predicting Recidivism: Challenges and Scopes	155
<i>Khan M. A. Haque, Shirish Rao, Bahareh Nasirian, Victoria C. P. Chen, Chen Kan, Yuan Zhou</i>	
Towards AI-Enhanced Process Planning: Assessing Machine Tool Capability Based on Part Design.....	161
<i>Sepideh Abolghasem, Matthew Youssef, Amman Pandde</i>	
An Effort to Three Dimensionally Fabricate Finger Prosthesis Using Hybrid Materials with Integrated Tactile Sensing	167
<i>Rokeya Sarah, Perrin Woods, Jun Bae, Krittika Goyal, Md Ahasan Habib</i>	
Water Resource Portfolio Rebalancing: An Isomorphic Application of Financial Management Techniques.....	173
<i>Richard A. Burgess II, Mario G. Beruvides</i>	

Control of Industrial Robots Based on Artificial Intelligence: Current and Future Trends	179
<i>Bryan Eduardo Lara-Medrano, Ivan Renteria-Márquez, Tzu-Liang (Bill) Tseng</i>	
Digital Tools to Enhance Construction Safety & Health Management	185
<i>Theodore Mayeshiba, Samanyu Raju Kakarlapudi</i>	
A Linear Programming Application for Generating Running Routes Based on Individual Preferences	191
<i>Yoav Levanoni, Owen Works, Antonio Da Silva, Jill Speece</i>	
Performance Evaluation of a Single Cyclone Flash Dryer for Instant Pounded Yam Flour Production: A Review	197
<i>Rukayat O. Bello, Abdulganiy O. Raji, Bolanle W. Asiru, Abdulrasheed O. Alade, Adegbite A. Sirojdeen, Abimbola Olokoshe</i>	
Heart Disease Prediction Using Machine Learning Methods	204
<i>Hala Al Sliiti, Abdullah Obeidat, Tasneem Tawalbeh, Shuxia (Susan) Lu</i>	
A Multi-Objective Evolutionary Machine Learning Method for the Yield Strength Prediction of Strip Steel in Continuous Annealing	210
<i>Chang Liu, Lixin Tang, Kainan Zhang, Jiajing Guo</i>	
Advancing Simulation Environments: An Approach for Automated Layout Generation.....	216
<i>Sebastian Köhler, Hannah Schreiber, Felix Rauscher</i>	
Integration of Online and Stochastic Optimization for Operational Decision Making in Warehouse Operations	222
<i>Maximilian Barlang</i>	
Collation Tube Utilization Prediction in Central Fill Pharmacy Through Discrete Markov Chains	228
<i>Shao-Cih Wu, Yuxin Yang, Yu Jin, Sangwon Yoon</i>	
Online Lead Time Quotation Under Contingency	234
<i>Kelvin Ekun, Ana Muriel</i>	
Analytic Network Process for Multicriteria Decision-Making in Sustainable Composites Supply Chain Management.....	240
<i>Niloofar Akbarian-Saravi, Taraneh Sowlati, Abbas S. Milani</i>	
Integrated Regenerator Planning and RWA in WDM Optical Networks Under Link Failures.....	246
<i>Chong Wang, Bin Tian, Kai Pan, Junyan Liu, Fan Zhang</i>	
Patient Experience Feedback Sentiment Analysis: Combining BERT and LSTM with Genetic Algorithm Optimization	252
<i>Hajar Sakai, Sarah S. Lam, Mohammadsadegh Mikaeili, Joshua Bosire</i>	
A Proposed Model for Laptop Third-Party Reverse Logistics Provider Selection	258
<i>Naghmeh Rabiei, Saman Hassanzadeh Amin, Saeed Zolfaghari</i>	
The Use of Text Mining to Identify Trends and Relationships Between Social Determinants of Health and Congestive Heart Failure.....	264
<i>Ifeoluwa Solaru, Laura Ikuma</i>	
A New Facility Location Model to Design a Closed-Loop Apparel Supply Chain Network Under Uncertainty	270
<i>Samira Rouhani, Saman Hassanzadeh Amin, Leslie Wardley</i>	

An Economic Evaluation for the Renovation of Fire Brigade in Low and Middle-Income Countries: Case of Lebanon	276
<i>Nabil Nehme, Kevork Baboyan, Layal Samaha, Ghassan Nehme</i>	
Pioneering Glass Recycling: A Feasibility Study on Reverse Logistics in the Dominican Republic	282
<i>Paola Herrera, Paola Cruz, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Unveiling Service Excellence in the Electrical Sector: A SERVQUAL Odyssey in the Dominican Republic	288
<i>Giselle Angeles, Lidia Ortiz, Edwin Hernández, Levis Cabrera-Abinader</i>	
Economic and Strategic Feasibility of Dominican Tilapia Export to New York: A Comprehensive Analysis for Puerto Plata SeaFoods.....	294
<i>David Urena, Pamela Jaquez, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Patient-Centered Care from Patient’s Experience and Perspective	299
<i>Yuan-Han Huang</i>	
Economic and Operational Feasibility of an Interactive Cultural Museum in Puerto Plata: A Systemic Approach to Innovation in Cultural Engagement.....	305
<i>Danilo Fernandez, Minerva Tavares, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Lean Six Sigma-Driven Enhancement of Fabric Production at Dominican Knits: A Case Study in Reducing Rejection Rates.....	311
<i>Ayleen Frias, Nicole Medina, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Implementation of a Sustainable System for Plastic Waste Management in Santiago De Los Caballeros: A Systemic Approach to the Conservation of the Yaque Del Norte River Tributaries.....	316
<i>Ivan Gil-Auzon, Amalia Jaquez, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Enhancing Service Quality in Telecommunications: A SERVQUAL Model Assessment at Telecable Global, Santiago De Los Caballeros.....	322
<i>Kirsis Batista, Maria Santos, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Enhancing Supply Chain Resilience: Interplay of Process Flexibility and Excess Capacity	327
<i>Fangyuan Li, Stephan Biller</i>	
Flowing Towards Excellence: ISE in Water/Wastewater Utility Evaluation	333
<i>John M. Corliss Jr.</i>	
Supporting Sleep Health and Chronic Care Management Information for Patient Self-Care	339
<i>Cassandra M. McCormack, Barrett S. Caldwell, Michelle Garrison</i>	
Development of Price Forecasts for Agricultural Stochastic Planning Models.....	345
<i>Xaimarie Hernández-Cruz, Abhay Jayani, J. René Villalobos, George Runger</i>	
Emergency Response Management Plan for Occupational Safety and Health at Pontificia Universidad Católica Madre Y Maestra.....	351
<i>Patricia Fernandez, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Alternative Police Response Models to Crisis Calls	355
<i>Veronica M. White, Laura A. Albert</i>	
Expanding the UNIVERSE: UNderstanding Industrial Engineering VERSatility for K-12 Educators	361
<i>Leslie A. Potter, Devna Popejoy-Sheriff, Hannah Albrecht, Jenna Wols</i>	

Optimal Design of a Biofuel Supply Chain Considering Government Subsidies: Mixed-Integer Linear Programming Model	367
<i>Niloofar Akbarian-Saravi, Ali Akbarian-Saravi, Masoud Rabbania</i>	
Leveraging on RFID-IoT Technologies and Simulation to Design and Develop a Smart Shelf for Managing Low Value Medical Supplies	375
<i>Vielka-Emerald Quiroz, Yasmina Maïzi, Ygal Bendavid, Samad Rostampour, Richard Philippe</i>	
Leveraging on RFID-IoT Technologies and Simulation to Design and Develop of a Work-in-process Prototype in a Manufacturing Plant	381
<i>M. Nursultan Sardar, Yasmina Maïzi, Ygal Bendavid, Samad Rostampour</i>	
Effects of Exoskeletons on Low-Back Muscular Demands During Unloaded Intermittently Performed Bending Tasks.....	387
<i>Pranav Madhav Kuber, Ehsan Rashedi</i>	
How Do Exoskeletons Affect Balance During Intermittently Performed Sustained Bending Tasks?	393
<i>Pranav Madhav Kuber, Ehsan Rashedi</i>	
A Real-Time Temperature Prediction Method Based on CNN-LSTM with MODE in Steelmaking Process.....	399
<i>Dan Wang, Chang Liu, Lixin Tang</i>	
Optimizing Ideal Time in Stochastic Assembly Line Balancing Through Chance-Constrained Via K-means Algorithm	405
<i>Esam Alhomaidhi</i>	
Modern Food Supply Chains: A Systematic Literature Review	411
<i>Benjamin Berry, Camden O’Gara, Brandon Liu, Isabella T. Sanders</i>	
Rule-Based Detective Model for Medical CPT Coding Errors in an Outpatient Community Health Medical Center	418
<i>Laith Abu Lekham, Tammy Cooper, Ellen Hey, Yong Wang, Mohammad T. Khasawneh</i>	
Application Processes Factors: A Systematic Literature Review	424
<i>Quinn Maretzki, Spencer Jones, Samantha McNaughton, Isabella T. Sanders</i>	
Unveiling Patient Insights and Experiences: An Integrated Approach to Multi-Criteria Topic Modeling and Classification	430
<i>Laith Abu Lekham</i>	
A Moderate Realist Worldview of Soft Systems Methodology: Strengthening Flexibility with Objectivity	436
<i>Neal Wilkinson, Javier Calvo-Amodio</i>	
The Impact of Investment in Technology and Learning Techniques in Work Design and Ergonomics Lab for Diverse and Inclusive Interest of ISE Students in Human Factors and Ergonomics	442
<i>Samar Saleh, Vidita Gawade, Christina Bifulco, Weihong (Grace) Guo</i>	
A Branch-And-price Algorithm for Emergency Humanitarian Logistics with a Mixed Truck-drone Fleet.....	448
<i>Abhay Sobhanan, Sasan Mahmoudinazlou, Hadi Charkhgard, Changhyun Kwon</i>	
Using Machine Learning to Analyze Hospital Admissions	454
<i>Mohammed Tufeeq, Hieu Pham, Sampson Gholston, Shankar Mahalingam</i>	

MBSE for Knowledge Transfer.....	459
<i>Broghan Martin, Jill Speece</i>	
GRI Standards for Environmental Sustainability – a Brief Review	465
<i>Jaspreet Sra, Balbinder Deo</i>	
Economics of Early Childhood Development	471
<i>Khadija Bouzekri, Aasa Dommalapati, Austin Holt, Yiyang Yu, Chen Zhou</i>	
Solution Path Algorithm for Kernel Distributionally Robust Support Vector Machines	477
<i>Guangrui Tang, Neng Fan</i>	
Determining the Effectiveness of Infectious Waste Management of District Hospitals in Bulacan: A Basis for Infectious Waste Management System	483
<i>Ivy Mar J. Ramos, Apple Mae Pajuelas, Maria Katrina Flores, Roger Enriquez</i>	

VOLUME 1, BOOK B

Block Relocation Problem Considering Maximum Feasible Cleaning Moves with One Degree of Freedom.....	489
<i>Mazen I. Hussein</i>	
Advancing Postoperative Acute Kidney Injury Management Through AI Modeling	495
<i>Dima Tareq Al Absi, Firda Rahmadani, Mecit Can Emre Simsekler, Mohammed Atif Omar, Siddiq Anwar</i>	
A Connected In-Store and Online Customer Data Set for Omnichannel Retail Logistics Research	501
<i>Joyjit Bhowmick, Jennifer Pazour</i>	
Experimental Wargaming: Applying the Scientific Method to Human Behavior.....	507
<i>Jake Viraldo, Jeff Waters, David Crow</i>	
Image-Based Genotype Encoding for Phenotype Prediction and Exploration for Result Explainability	513
<i>Abdur Rahman, Manideep Kolla, Mohammad Marufuzzaman, Haifeng Wang, Zhaohua Peng</i>	
Evaluating an Elbow Exoskeleton for Reducing Work-Related Musculoskeletal Disorders Risk: An Interdisciplinary Study	519
<i>Eshwara Prasad Sridhar, Veysel Erel, Muthu Wijesundara, Mahmudur Rahman</i>	
An Interpretable Optimal Pricing Strategy for E-Commerce Platforms.....	525
<i>Abdur Rahman, Mohammad Marufuzzaman, Haifeng Wang</i>	
Weed Detection in Cotton Fields Using YOLOv5: Prototype Development and Deployment	530
<i>Abdur Rahman, Meng Chen, Yuzhen Lu, Haifeng Wang</i>	
Developing a Product Architecture for a Window Manufacturing Company by Using UML Class Diagrams and Design Structure Matrix: Challenges and Lessons Learnt.....	536
<i>Braian Rivera, Faiza Zehra, Sajid Ullah Butt, Nooshin Salari, Ahmed Qureshi</i>	
Monitoring Drug Poisoning Mortality Across States Using Control Charts: A Comparative Analysis	542
<i>Layan Abu-Ghoush, Miriam Flores-Castillo, Christopher M Greene</i>	
Empowering Research: Open-Source LLMs, Semantic Search, and Domain-Specific Knowledge in a Multi-Document Q&A Assistant	548
<i>Mohammed-Khalil Ghali, Yu Jin</i>	

Industry 4.0 in Mexico’s State of Advancement: Manufacturing and Academic Cases	554
<i>Elias H. Arias Nava, Luis Moncayo Martinez, Brendan Sullivan</i>	
Design and Implementation of Environmental Management System (EMS), a Pathway to Achieve Sustainability Goals Using ISO 14001:2015 Standard in a Medical Supply Chain Organization.....	560
<i>Mohammed Rizwan Mirajkar</i>	
Decision Support for Event Portfolio Management in Convention Centers.....	567
<i>Maxime Coulot, Robert Pellerin, Esma Yahia, Simon Harris</i>	
Explainable Nonparametric Importance Sampling in Stochastic Simulation	573
<i>Chenfei Li, Jaeshin Park, Eunshin Byon</i>	
Enhancing International Passenger Throughput and Minimizing Missed Connections at a U.S. Airport Via Discrete Event Simulation.....	579
<i>Jorge Duyos, Murat Erkok, Nathan Bonet</i>	
Does Screening for SDOH Factors Impact Health Outcomes in Sepsis Patients? a Retrospective Study.....	585
<i>Mwembezi A Nyelele, Faezeh Ardali, Laura H Ikuma, Tonya Jagneaux, Gerald M Knapp</i>	
Applying DMAIC for Cost Savings at Molding.....	591
<i>Shaiel Suárez De Jesús, Coralys Nicole Concepción Muñoz, Liany Marie Crespo Gómez, José Enrique Ortiz Adames, Yesenia Cruz Cantillo</i>	
The Economics of Higher Education Modeled as a Thermodynamic Heat Engine.....	597
<i>Christopher M. Penick, Mario G. Beruvides</i>	
A Review of Cultural Frameworks and Their Influence on Engineering Identity Development.....	604
<i>Annika Sprung, Mario G. Beruvides, Jennifer Cross</i>	
Effective and Sustainable Strategies for Federally Qualified Health Centers to Engage Young Adults	610
<i>Olivia McNulty, Jill Speece</i>	
Flow-Shop Scheduling Optimization Through Discrete-Event Simulation and Neural Networks.....	616
<i>Jesús Ricardo Herrera Garfio, Ivan Arturo Renteria-Marquez, Tzu-Liang (Bill) Tseng</i>	
A Flexible and Synthetic Transplant Kidney Exchange Problem (FASTKEP) Data Generator	622
<i>Calvin Nau, Prashant Sankaran, Katie McConky, Moises Sudit, Payam Khazaelpour, Alvaro Velasquez, Chirag Goel, Venkat Selvamanickam</i>	
GIFR: A Graph-Informed Functional Regression Model for Process- Structure-Property Relationships Discovery	628
<i>Kiran Adhikari, Yanlin Xiang, Ying Lin, Qianmei Feng, Siwei Chen, Mahesh Paidpilli</i>	
A Novel Roughness-Based Metric for Uniformity Modeling and Monitoring in High-Temperature Superconductor Manufacturing	634
<i>Yanlin Xiang, Kiran Adhikari, Ying Lin, Qianmei Feng, Siwei Chen, Mahesh Paidpilli, Chirag Goel, Venkat Selvamanickam</i>	
Option Valuation of Energy Storage Integration to a Wind Farm: A Real Options Approach	640
<i>Gazi Nazia Nur, Mohammad Ahnaf Sadat, Cameron A. Mackenzie, K. Jo Min</i>	
Designing a Resilience Logistics Network Using Metaheuristics	646
<i>Sai Srikanth Reddy Kolli, Sarah S. Lam, Daryl Santos, David T. J. Chang</i>	

Advancing Resilience and Survivability of Buildings by Integrating Life-Cycle Assessments with Multi-Objective Linear Programming	652
<i>Kenneth Martínez, Mahsa Ghandi, Jasmina Burek, David Claudi</i>	
Neural Embedded Optimization for Integrated Location and Routing Problems.....	658
<i>Waqar Kaleem, Harshita Ayala, Anirudh Subramanyam</i>	
Multimodal Logistics Systems for Agricultural Development, a Systematic Review Identifying the Latin American Case	664
<i>Daniel Muñoz Rojas, Jairo R. Montoya-Torres</i>	
PCT Market Development – an Opening to New Employment & Entrepreneurial Opportunities in Green Operations?	671
<i>Balbinder Deo</i>	
Reliability Modeling of Human Lumbar Functional Spinal Units System Degeneration	677
<i>Tong Wu, Litai Ma, Yao Cheng, Kerui Zhang, Kang Li, Yi Yang, Hao Liu, Changxi Wang</i>	
Sustainability in Manufacturing: A Guide to Circular Economy Practices and Key Performance Indicators.....	683
<i>Dina Aljamal, Rahaf Ajaj, Hussien Hegab</i>	
The Industrial and Systems Engineering (ISE) Role in Enabling Synergies Between Lean Construction and Sustainability.....	689
<i>Lincoln Forbes, Aloysius Attah</i>	
A Comparative Study of Manufacturing Methodologies and Their Interconnectedness for Operational Excellence.....	695
<i>Caitlin Tran, Allison Ledford, Gregory Harris</i>	
Optimization of 3D-Printed Sacrificial Templates for Slow-gelling Hydrogel	701
<i>Yan Chen, Yingge Zhou</i>	
From Crisis to Strategy and Action: A Qualitative Study to Understand the Impact of COVID-19 on Implementing Knowledge Management in Organizations	707
<i>Iman Naderi, Deborah E. Dickerson, Maryam Ashrafi</i>	
Multi-Crane Operation Scheduling Problem of Power Grid Warehouse.....	713
<i>Feng Chen, Li Wang, Jiawei Zhang, Qi Sun, Dali Zhang, Sixiang Zhao</i>	
Industry 4.0 Technologies and the Critical Success Factors for Transitioning to Circular Agri-Food Supply Chains.....	719
<i>Marina Badiale Silveira, Paula De Camargo Fiorini, Fabiano Armellini</i>	
Improving Asset Management at Ochoa Hardware: Integrating ISO 9001:2015 and ISO 55001:2014 Standards	725
<i>Kevin Vargas, Mariangeles Ferreira, Levis Cabrera-Abinader</i>	
Modeling Transportation Risk for Spent Nuclear Fuel.....	730
<i>Andrew Jb Kraus, Li Liu, James Olson, Brandon Costelloe-Kuehn, William Wallace</i>	
Optimizing a Closed-Loop Supply Chain for Electronic Waste Management	736
<i>Jorge David Restrepo-Diaz, Saman Hassanzadeh Amin</i>	
A VNS Approach for a Joint Fulfillment and Consolidation Problem in E-Commerce	742
<i>Kehinde Ismaila, Adriana Gabor, Andrei Sleptchenko, Maher Maalouf</i>	

Networked Microgrid Restoration Using Reinforcement Learning	748
<i>Gino Lim, Behnam Sabzi, Jian Shi</i>	
Identification of the Potential Causes of Scratch in the Roll Conditioning Line.....	754
<i>Jesmar Duran, Jorge Aldahir Rodríguez Castro, Carlos Misael Arias, Sareli Yadira Hernandez</i>	
Characterization of Seat-To-Head Vibration Transmissibility in Rotorcraft Occupants.....	760
<i>Masih Moore, Subhash Rakheja, Ramin Sedaghati, Hossein Vatandoost</i>	
Integrating Urban Design into Optimal Spatial Deployment of Electric Vehicle Charging Stations.....	766
<i>Weiliang Deng, Neng Fan, Shujuan Li, Bo Yang</i>	
Predictive Modeling for Quality Control in Multi-Stage Manufacturing Using Artificial Intelligence.....	772
<i>Fernando Agredano, Soumaya Yacout, David Simard</i>	
Software Defect Prediction Using Ensemble Modelling and Class Balancing.....	778
<i>Meenakshi Dakuru</i>	
FRAM Effectiveness in the Era of Industry 4.0: A Dual Perspective Review	784
<i>Ali Karevan, Sylvie Nadeau</i>	
Contemporary Work Design & Ergonomics Education Theory and Practice.....	790
<i>Randall Reagan, Samar Saleh</i>	
Analyzing Real-Time Delivery Policies with Non-Linear Holding Costs.....	796
<i>Natarajan Gautam</i>	
Optimizing Food Bank Logistics: A Synchronized Approach to Mobile Food Pantry Routing	802
<i>Rabiatu Bonku, Lauren Davis, Ricky Owusu, Faisal Alkaabneh</i>	
Initial Investigation into Design Best Practices of Wire Arc Additive Manufacturing	808
<i>Emily S. Wall, Gehendra Sharma, Walker Jarrell, Joel Austin, Elton Freeman</i>	
Safety in Systems: A Comprehensive Literature Review of PHA, FMEA, HAZOP, and Fault Tree Analysis.....	814
<i>Ali Sotoodeh, Tazim Ahmed, Manupreetha Chandrasekar</i>	
Manufacturability Characterization of Digital Light Processing of Bone Scaffolds	820
<i>Emilio Araiza, Hannah D. Budinoff, Miguel Osorio</i>	
Enhancing Resource Allocation for Alzheimer's Diagnostic Process in North Dakota: An Application of the Maximal Coverage Location Problem.....	826
<i>Krishna Kamalakannan, Diana Lopez Soto</i>	
Research Paper: Optimizing Facilities, Time, and Productivity in an Innovative Small Business Located in Puerto Rico	832
<i>Tahis Sánchez Román</i>	
Leveraging Sensor Data Repository in IoT-Enabled Lean Manufacturing: A Window Manufacturer Case Study.....	838
<i>Faiza Zehra, Braian Rivera, Nathan Wiczorek, Sajid Ullah Butt, Nooshin Salari, Ahmed Jawad Qureshi</i>	
Flexible Hybrid Digital Toolchain for Robotic Additive Manufacturing Using Industry 4.0, and Industrial Robot and PLC Systems.....	844
<i>Almas Sahar, Abdullah Mohiuddin, David Nobes, Ahmed Qureshi</i>	

A Simulation Model Analysis in the US-Mexico Border	850
<i>Carlo Zorola, Hiram Moya, Aditya Akundi</i>	
Clustering Insights in Highly Customized Manufacturing: A Digital Twin Approach with Sensor Fusion and Machine Learning	856
<i>Sajid Ullah Butt, Faiza Zehra, Braian Rivera, Ahmed Qureshi</i>	
Predicting Usability of Prosthetic Devices in a Virtual Reality Setting.....	862
<i>Junho Park, Maryam Zahabib</i>	
Development and Face Validity of the Perceived Usefulness of Feedback Characteristics Questionnaire.....	868
<i>Asieh Varyani, Ean H. Ng, Ganapathy Natarajan</i>	
Enhancing Procurement Efficiency of Collaborative Supply Networks Using Multi-Agent Actor-Critic Algorithm	875
<i>Dhairyshel Patil</i>	
Exploring Consumers' Panic Buying Behavior: An Agent-Based Model for Supply Chain Management in Crisis Situations.....	881
<i>Shubham J Raval, Sarthak Saxena, Marzieh Soltanolkottabi, Narjes Sadeghamirshahidi</i>	
Costing a Special Emergency Health Service Facility Design	887
<i>Balbinder Deo, Jaspreet Sra</i>	
Optimizing Automated Optical Inspection: Enhancing Precision and Efficiency Through Adaptive Tolerance Limits with the Find Plane Algorithm.....	893
<i>Nishant Trivedi, Raghavendra Rout, Christopher M. Greene, Hector Vega</i>	
Nature's Navigators: Emulating Slime Mold Behavior in Algorithmic Design.....	899
<i>Amol M. Shirodkar, Chris Emmanuel E. Sadaya, Justin Cui, Kogul Kathirgamathas</i>	
A Study on the Federation of Heterogeneous Simulations Based on ISO 23247	905
<i>Goo-Young Kim, Junwoo Lim, Sang Do Noh</i>	
Sustainability of Manufacturing Enterprises: A Psychological Perspective of Linking Manufacturing Layers	911
<i>Ibrahim Garbie, Muhammad Garbie</i>	
Comparative Analysis of Resampling Techniques on Predictive Model Performance for Lung Cancer Prognosis.....	917
<i>Layan Abu-Ghoush, Adam Zeidan, Shuxia (Susan) Lu, Mohammad Khasawneh</i>	
Factory Layout Design and Optimization Using Production Simulation and Reinforcement Learning	922
<i>Seokhwan Yu, Hyekyung Choi, Donghyun Lee, Sang Do Noh</i>	
Optimization of Worker Assignment for a Manual Assembly Production Lines Using Reinforcement Learning.....	928
<i>Changha Lee, Goo-Young Kim, Junwoo Lim, Sang Do Noh</i>	
Depth Perception and Task Performance in Robotic Teleoperation	934
<i>Vibhav Nirmal, Obiageli Ngwu, Eshwara Prasad Sridhar, Md Ahasan Habib, Mahmudur Rahman</i>	
Planning for Net-Zero Electric Vehicle Charging Infrastructure in Texas Through 2040	940
<i>Valentina Mora Casallas, Joy Saha, Arslan Abbasi, Tongdan Jin, Michelle Londa</i>	

How the COVID-19 Pandemic Affected Spatio-Temporal Usage Patterns in a Bikesharing System	946
<i>V. M. Garcia, V. Maier-Speredelozzi</i>	
Towards Personalized 3D Bioprinting: Leveraging Cluster-Based Machine Learning for Mass Customization.....	952
<i>Shah M Limon, Rokeya Sarah, Mahmudur Rahman, Md Ahasan Habib</i>	
Optimization of Spinning Processes in Textile Manufacturing Using Reinforcement Learning	958
<i>Smm Sajadieh, Hye Kyung Choi, Whan Lee, Sang Do Noh, Seung Bum Sim</i>	
Peer Effects and Safety Culture on Safety Management: A Conceptual Model	964
<i>Chukwudiebube (Chuddy) Atagbuzia, Ganapathy Natarajan</i>	

VOLUME 2, BOOK A

Predicting Change Success: The Six Batteries of Change Framework in Corporate Transformation	970
<i>Geert Letens, Kurt Verweire, Anne Kloosterboer, Sven Vanhengel, Heather Keathley</i>	
Design of a Manufacturing System Using the Customer Journey Mapping Method: Hybrid Solar Panel Assembly (manual - Automated - 5.0)	976
<i>Emmanuel Jonathan Bouche Noumbi, Lucas A. Hof, Sylvie Nadeau</i>	
An Explainable Machine Learning Approach to Aid MDS-UPDRS Part III Diagnosis Using Kinematic Data of Parkinsonian Gait	984
<i>Jungyoon Moon, Kijung Park, Kiwon Park, Ryul Kim</i>	
Design and Manufacture of Innovative Canine Trochlear Groove Prosthesis Using Medical Images and 3D Printing Technology	990
<i>Faisal Khaled Aldawood, Juan Carlos Campos Rubio</i>	
A Production System Analysis to Reduce the Cost of Non- Conformity in a Paper Bag Process Using Six Sigma DMAIC Methodology	993
<i>Hazel A. Caparas</i>	
Case Study – Giving Manufacturing Engineers the Tools to Catch and Fix Ergonomics Issues in 3D	999
<i>Anass Belcharki, Véronique Dumais, Anaïs Richard, Julie Charland</i>	
Reducing Waiting Time in Local Diagnostic Clinic: An Application of Queueing Theory	1004
<i>Marianne Calayag</i>	
Optimization of the Measurement System for Variability Reduction and Process Improvement Through Six Sigma.....	1010
<i>Arias Arellano Carlos Misael</i>	
A Closed-Loop Supply Chain Network Design for Sustainable Winter Road Maintenance	1017
<i>Milad Hematian, Jean-François Audy, Amina Lamghari</i>	
Prototype of a Bi-Directional Digital Twin of an Industry 4.0 Smart Manufacturing Facility	1023
<i>Roop Harshit Vankayalapati, Paul Perkins, Bimal Nepal, Hamid Parsaei, Satish Bukkapatnam, Amarnath Banerjee</i>	
Planning Decentralized Electricity Systems Under Uncertain Central Grid Conditions	1029
<i>Amir Boushahine, Majd Olleik</i>	

AI-Assisted Acceleration of Catalytic Materials Design/Discovery: Towards Achieving Net-zero Emissions	1035
<i>Seyed Mohsen Hosseini-Ardali, Ahmed Ragab, Mouloud Amazouz, Soumaya Yacout</i>	
A Bibliometric Analysis of Power System Resilience and Recovery Subject to Extreme Events.....	1041
<i>Adedayo Aruwajoye, Henry Lester, Raymond Smith</i>	
Predicting Management Skills of Undergraduate Students by Leveraging Different Machine Learning Classifiers.....	1047
<i>Fazla Rabbia, Niamat Ullah Ibne Hossain, Omar Ashour</i>	
System-Based Methodology for Accurate Problem Definition	1053
<i>Thales Weig Magalhães, Guilherme B. Zuccolotto, Kaustubh Vibhandik, Rupy Sawhney</i>	
A Protocol to Create an Anthropometric Database Applicable to Any Population.....	1059
<i>Ana Maria Rincon Jaramillo, Marcus Yung, Amin Yazdani, Ornwipa Thamsuwan</i>	
A Comprehensive Leadership Development and Assessment System for Engineering Students.....	1065
<i>Paul M. Stanfield, John C. Kelly, Arvind Chandrasekaran, Tameka Coley</i>	
A Scientometric Exploration of Physical Fatigue and Risk Management in Construction.....	1071
<i>Md Hadisur Rahman, Nishat Binte Alam, Juhyeong Ryu</i>	
Machine Learning Enhanced High Fidelity and High Viability Bioprinting Using Rheological and Compositional Predictors	1077
<i>Imtiaz Qavi, Sampa Halder, Dongping Du, George Tan</i>	
A Generalized Quantitative Framework for Complex Adaptive.....	1083
<i>Paul M. Stanfield, Rasheka N. Robinson</i>	
Promoting Safe Use of AMRs by Assessing Their Residual Risks and Safety-Related Functions	1089
<i>Tongzhou Zhang, Sabrina Jocelyn, Chunhong Law, Ali Aidibe, Soumaya Yacout</i>	
Time-Series Analysis of Impact of Severe Weather Events on Traffic and Mobility Patterns.....	1095
<i>Adelyn Heuer, Ehsan Salari</i>	
Enhancing Supplier Selection and Order Allocation Processes with Machine Learning Clustering and Optimization Techniques	1101
<i>Asma Ul Husna, Saman Hassanzadeh Amin, Ahmad Ghasempour</i>	
Examining Caregiver Decision-Making Using Human Factors Analysis and Classification System (HFACS), AcciMap, and Risk Evolution, Detection, Evaluation, and Control of Accidents (REDECA) Frameworks	1107
<i>Greg Placencia, Maryam Pishgar, Glenn Takata, Alexis Deavenport-Saman</i>	
A Temporal Convolutional Neural Network (TCNN) Approach to Predicting Capacitated Lot-Sizing Solutions.....	1114
<i>Seung Jin Choi, Josh Cooper, Esra Buyuktahtakin Toy</i>	
Human Factors Issues in Augmented Reality-Assisted Manual Order Picking: A Systematic Literature Review	1120
<i>Md Abdullah, Mahmudur Rahman</i>	
Where Has the Power Gone? a Five-Year Review of Rigid Powered Exoskeletons	1126
<i>Braden Westby, Richard Stone, Fatima Mgaedeh</i>	

An Overview of the Literature on Decision-Making Support Models for Deconstruction Logistics	1131
<i>Félix Veillette, Tasseda Boukherroub, Jean-François Audy</i>	
Pediatric Vaccine Tender Scheduling in Low- and Middle-income Countries	1137
<i>Nicholas Uhorchak, Ruben A. Proano, Sandra Eksioglu, Fatih Cengil, Burak Eksioglu</i>	
Proposing a Design Science Research Framework for Developing Lean Six Sigma Solutions in the Service Sector.....	1143
<i>Mariam Ramadan, Ravindra S. Goonetilleke, Mecit Can Emre Simsekler, Jiju Antony</i>	
Simulation Analysis of Risk of Job Tardiness as a Measure of Manufacturing System Resilience.....	1148
<i>Mohammad Milad Omar, Dusan Sormaz, Saruda Seeharit</i>	
Design of a Self-Starting Combined Shewhart-CUSUM Chart for Short Run Scenarios	1154
<i>Alexander Wendler, Mario G. Beruvides, Victor Tercero-Gomez</i>	
Wood Flow Management for Adjusting Lead Time and Improving Delivery Precision: A Systematic Literature Review	1160
<i>Niloofar Jahani, Luc Lebel, Shuva Gautam</i>	
Matrix-Based Input-Output Process Modeling.....	1166
<i>John G. Bloodwood, William J. Peck</i>	
Understanding the Impact of Poll Worker Cybersecurity Behaviors on U.S. Election Integrity	1172
<i>Abigail Kassel, Isabella Bloomquist, Natalie M. Scala, Josh Dehlinger</i>	
Toward TransfORMers: Revolutionizing the Solution of Mixed Integer Programs with Transformers.....	1178
<i>Joshua F. Cooper, Seung Jin Choi, I. Esra Buyuktahtakin</i>	
Influence of Process Parameters on the Microstructure and Material Properties of Material Extruded (MEX) Three- Dimensional Steel Parts	1184
<i>Cara Franke, Abishek B. Kamaraj</i>	
Analysis of Security Behaviors of Supply Chain Professionals	1194
<i>Hao Nguyen, Natalie M. Scala, Josh Dehlinger</i>	
Resilient System Architecture for an Autonomous Robotic Patrol System	1200
<i>Matthew Darnall, Mohamad Darayi</i>	
Assessing and Prediction of the Nutritional Value of Fast-Food Meals: Calories and Macronutrients	1206
<i>Tasneem Tawalbeh, Shoog Nimri, Zeynep Ertem</i>	
Houston Methodist Operating Room and Procedural Area Supply Expiration Waste Reduction Kaizen.....	1212
<i>Shaun Stephenson, Matthew Rominger, Mustafa Quraishi</i>	
Hierarchical Model of Unreliable Systems in Comparison to an Anti-Fragile Replacement System.....	1218
<i>Eric Smith, Iqtidar Siddique, Vladik Kreinovich, Richard Posthuma</i>	
Operational Excellence Systematic Layout Planning for a Boat Trailer Manufacturer	1224
<i>Hannah Selph, Jessie Wilson, Guilherme B. Zuccolotto</i>	
Survey of Courses on Semiconductor Manufacturing at U.S. Universities.....	1230
<i>Isaac Obembe, Kh M Asif Raihan, Deven Wieland, Zhijian Pei, Wangping Sun, Zhichao Li, Weilong Cong, Meng Zhang</i>	

A Comprehensive Characterization Study of Alginate-Gelatin-Tempo Mediated Nano Fibrillated Cellulose Composites for Extrusion-Based 3D Bioprinting Technique.....	1236
<i>Rokeya Sarah, Kory Schimmelpfennig, Benjazim Szum, Christopher Lewis, Md Ahasan Habib</i>	
People-Centric Operational Excellence in Product Management for Small-Medium Manufacturing.....	1242
<i>Adam Riley, Kaustubh Vibhandik, Guilherme B. Zuccolotto</i>	
Improving Medical Supply Chain in the Emergency Department – a Lean Framework.....	1248
<i>Nalan Betul Polat, Annajirao Challa, Wareef Al Najjar, Wen Cao, Mohammad T Khasawneh</i>	
Development of a Customized, Modular Hydroponics Chamber.....	1254
<i>Richard Stone, Braden Westby, Fatima Mgaedeh</i>	
Optimizing Cross-Docking Operations: A Multi-Objective Integer Programming Approach.....	1259
<i>Mohammad Milad Omar, Peter Adjei, Omar Alhawari, Yusuf Zakaria</i>	
Renewable Hydrogen Generation: Environmental Implications and Supply Chain Analysis	1265
<i>Adam Gish, Michael Grandi, Yuwei Guo, Zak Mendenhall, Jeffrey Wisoff, Mohamed Awwad</i>	
Advancing Quality Control in Printing: An Automated Image Processing Framework for Precision Defect Detection.....	1271
<i>Christopher Greene, Mohammad Alshoul, Samer Abubaker, Ashaar Rasheed</i>	
A Comorbidity Network Analysis for Hospitalized Patients to Aid Early Pandemic Preparedness	1277
<i>Nguyen Phan, Shengfan Zhang</i>	
Evaluating the Impact of Vaccine Hesitancy on the Allocation of Vital Resources During COVID-19 Pandemic	1282
<i>Hieu Bui, Sandra D. Eksioglu, Ruben A. Proano</i>	
Enhancing Care Access Through Process Improvement in a Pediatric Behavioral Health Facility	1288
<i>Katherine Kinney, John Ziobro, Mackenzie Dominick, Omar Ashour, Josh Gadley</i>	
Extraction and Detection of Singular Manufacturing Features Using KAZE Descriptors	1294
<i>William J. Peck</i>	
Leveraging on Immersive Technologies to Develop a Framework to Assess Worker Training in Reverse Logistics	1300
<i>Jorge E. Garcia, Ali V. Barenji, Frederick Benaben, Benoit Montreuil</i>	
Design of Experiments for Artificial Neural Network Architecture	1306
<i>William J. Peck, Garrett L. Rust</i>	
Hiatal Hernia Detection Using Novel End-To-End Deep Learning Model with Explainable AI	1312
<i>Sujatha Alla, Giridhar S, Christin T Kunjumon, Harini Sriraman, Vijay Kumar Chattu</i>	
Exploring Nutritional Equity in Food Bank Supply Chains	1318
<i>Nowshin Sharmile, Lauren Davis</i>	
Experimenting with ChatGPT in STEM Courses: Faculty and Students' Perspectives.....	1324
<i>William He-Yu, Emmanuel Fernandez</i>	
Fulfilling Triple Bottom Line Objectives: A Mathematical Modeling-Based Approach for Designing a Sustainable Supply Chain.....	1329
<i>Raymond L. Smith III</i>	

Immersive Digital-Twin Simulation-Driven Nursing Education.....	1335
<i>Anthony Nepomuceno, Inki Kim, Celeste Schultz, Caroline Cao</i>	
Simulation-Based Analysis of Rail Network Layouts for Bottleneck Mitigation in a Seaport.....	1341
<i>Tareq Abu-Aisha, Jean-Francois Audy, Mustapha Ouhimmou</i>	
Development of a Custom Framework for Assessing and Calculating Physical Infrastructure Resilience Score	1347
<i>Mohammadsaleh Malekinejad, Berna Eren Tokgoz, Thinesh Selvaratnam, Mahmoud T. Khasawneh</i>	
Stress Analysis in Multi-Head Large Scale Additive Manufacturing	1353
<i>Suyog Ghungrad, Azadeh Haghighi</i>	
Heterogeneous Recurrence Network Analysis: Unveiling Complex Dynamics for Emotion Recognition in EEG Signals.....	1359
<i>Yujie Wang, Diane Lim, Toshihiro Imamura, Cheng-Bang Chen</i>	
Optimizing Protein Titer Production Using Animal Cells: Predictive Modeling and Recommendations for Enhanced Yield.....	1365
<i>Jackson E. Polk, Mohammad Derakhshi, Huynh Le, Stephanie Wickham, Talayeh Razzaghi</i>	
Stakeholder Analysis Using a Problem Structuring Method (PSM) to Enhance Stakeholder Management in Ghana’s Artisanal Mining Problem.....	1371
<i>Ying Thaviphoke</i>	
Integrating Sentiment Analysis and Community Detection in Long Short-Term Memory Time Series Predictions: The WGA Strike Case.....	1377
<i>J. Fernando Correa-Fortanet, Brenda Ivette García-Maya, Araceli Zavala</i>	
A Design Methodology for Developing an ISS Inspired Long Duration Space Vehicle	1383
<i>Emmanuel Mbagwu, Venkat Allada</i>	
Quality Assurance Through Layered Process Audits in the Automotive Industry.....	1389
<i>Sareli Yadira Hernandez, Carlos Misael Arias, Jorge Aldahir Rodríguez Castro, Jesmar Duran</i>	
Addressing Barriers to Food Access: A Comprehensive Study of Fresh Mobile Market Distribution in Low-Income Communities.....	1395
<i>Motunrayo Ogunmola, Lauren Davis, Shona Morgan, Dwight Lewis</i>	
An Analysis of Methods for Ergonomics Research in Sports.....	1401
<i>Nell Jaskowiak, Richard Stone, Fatima Mgaedeh</i>	
Exploring the Robustness of Wilcoxon Signed Rank-Based Control Charts When Symmetry is Misspecified	1407
<i>Guillermo Hernandez-Zamudio, Victor G. Tercero Gomez, Mario G. Beruvides</i>	
Development and Optimal Design of Electric Vehicle Charging Station Digital Twin	1414
<i>Tzu-Liang (Bill) Tseng, Tenzin Lhaden, Denisse Urenda Castaneda, Honglun Xu, Michael Pokojovy, Md Fashiar Rahman, Chun-Che Huang</i>	
Enhancing Campus Mobility: A Set Covering Problem for Electric Scooter Charging Stations at Cal Poly Pomona.....	1420
<i>Monish Sagar, Antonio Espinas, Javad Seif</i>	

Surrogate Model Approach for Efficient Conformal Prediction Approximation.....	1426
<i>Yanwen Xu</i>	
Industry 4.0 Technologies and Lean Office: New Possibilities to Smart Office.....	1432
<i>Alex Almeida Dos Santos, André Luis Korzenowski</i>	
Time-Varying Demand Inventory Models.....	1439
<i>Guy L. Curry, G. Kemble Bennett</i>	
Multi-Objective Electric Bus Scheduling Problem Considering Multi-vehicle Types.	1445
<i>Foroogh Behnia, Seyyed S. M. N. S., Beth-Anne Schuelke-Leech, Mitra Mirhassani</i>	
Perfect Planner: Reinventing Material Planning & Procurement	1451
<i>T. Beil, V. Gupta</i>	
Sustainability Reporting and Environmental Impacts: A Review of the Oil and Gas Industry in the GCC.....	1457
<i>Drishti Joshi</i>	
Modelling Component Hardening Strategy for Power Network Resilience Optimization Under Uncertain Disruptions: A Distributionally Robust Approach	1463
<i>Changjie Zou, Tangfan Xiahou, Yu Liu</i>	
Critical Analysis of Digital Supply Chain Twin Concepts and Technological Requirements	1469
<i>Enzo Domingos, Jean-Marc Frayret, Maha Ben Ali</i>	
A Multi criteria-Choquet Based Forest Resources-allocation Mechanism	1475
<i>Mahdi Rahmoune, Mohammed Said Radjef, Tassedra Boukherroub, Margarida Carvalho</i>	
Developing a Decision-Making Tool for Sustainable Climate Action While Harmonizing Economic, GHG, and Ecosystem Service Indicators in Local Initiatives: A Case Study in Québec, Canada for Buffer Strip Implementation in the Agricultural Sector	1481
<i>E. Walfish</i>	
Toward Integrating Decision Theater and Digital Twin for Advanced Decision-Making in Supply Chains.....	1487
<i>Jean-François Audy, Tassedra Boukherroub, Mbarek El Bounjimi</i>	
Towards a Robust Deep Reinforcement Learning for Optimization of Heating Setup in Thermoforming Process	1493
<i>Iman Jalilvand, Bhushan Gopaluni, Abbas S. Milani</i>	
Exploring the Impact of Mechanical Properties on 3D Object Performance Through SolidWorks Simulation	1499
<i>Faisal Khaled Aldawood</i>	
Simulation-Based Optimal Insulin Infusion Control with Reinforcement Learning	1505
<i>Jinkun Lee, Zackarie Ellis</i>	
Addressing Heterogeneity in Federated Load Forecasting Via Personalization Layers	1511
<i>Shourya Bose, Yu Zhang, Kibaek Kim</i>	

VOLUME 2, BOOK B

Spiking Neural Network for Prediction of Future Influenza Strains in the United States	1517
<i>Michael A. Magid, Zeynep Ertem</i>	

Hybrid Simulation of the Assessment of the Impact of External Interventions on Comfort and Occupant Behavior in Intelligent Buildings	1523
<i>M. Sarité, J. M. Frayret, M. Cimmino, B. Delcroix</i>	
Integrating UX Journey Mapping with Systems Theory Behavior Over Time Graphs to Explore the Complexities of Identity Formation	1529
<i>Mario Beruvides, Jason Tham, Diego A. Polanco-Lahoz, Md-Rashedul Hasan, Jennifer A. Cross, Kelli Cargile Cook</i>	
Using Living Labs as a Mean of IoT Transfer of Expertise.....	1535
<i>Tagne Laurent, Ygal Bendavid, Samad Rostampour</i>	
Using IoT Technologies and Simulation as Building Blocks for a Digital Twin in a Clinical Care Environment.	1541
<i>M. Antoine Arcand</i>	
Weather Forecasting Using Machine Learning and Markov Chains	1547
<i>Shriya Madhwani, Chand Sahil Mansuri, Nagendra Nagarur</i>	
Implementing the Hybrid Virtual Nursing Care Model in Acute Care Settings for Discharge Tasks: A Pilot Study	1552
<i>Awatef Ergai, Cristina Cuartero, Nabaa Al Ani, Joysline Ndungu, Susan Thurman, Meriel McCollum, Leeanna Spiva</i>	
Pharmaceutical Supply Chain Risk Assessment: A Systematic Literature Review	1558
<i>Brandon Liu, Austin Hill, Leo Lowin, James Ciarlo, Isabella T. Sanders</i>	
A Metrology Inspection Guide for Informed Decision-Making and Process Optimization in Small and Medium Manufacturers	1564
<i>Catherine Wittekind, Gregory Harris</i>	
Human-Machine Mixed-initiative System for Integrated Planning and Scheduling in the Manufacturing Industry	1570
<i>Eloïse Prévôt, Marc-André Ménard, Jonathan Gaudreault, Maha Ben Ali</i>	
Linear Approximations for Stochastic Serial Network Performance.....	1576
<i>Karthikeyan Chittrarasu, Ronald Askin, Jorge Sefair</i>	
Identifying the Critical Drivers of a Culture of Continuous Improvement Using Regression Models.....	1582
<i>Andrew Moore, Yong Wang, Sangwon Yoon, Justin Sturek</i>	
Feasibility Study for the Establishment of a Sargassum Algae Biofertilizer Production Plant in the Dominican Republic.....	1588
<i>Emil Almanzar, Johanna Peralta, Gustavo Martinez, Edwin Hernandez, Levis Cabrera-Abinader</i>	
Data-Driven Analysis to Minimize Downtime in an Automated Production Line	1594
<i>Ebrahim Sharifnia, Guilherme B. Zuccolotto, Kaustubh Vibhandik, Adam Riley</i>	
Understanding the Link Between Conflict Profiles and Team Affective Outcomes Using LPA and NLP Techniques.....	1600
<i>Francisco Cima, Pilar Pazos-Lago</i>	
Optimization of the Healthcare Infrastructure Planning in Guanajuato: A Comprehensive Primary Healthcare Units Planning Model.....	1606
<i>Park Michael Jinwoo, Rodolfo Mendoza-Gómez, Roger Z. Ríos-Mercado</i>	

Information System Design and Modeling: A Case Study on SiC Wafer Manufacturing	1612
<i>Olukayode Fatoki, Zhichao Li, Om Prakash Yadav, Jacqueline Chestnut</i>	
A Review of Performance Indicators for the Pulp and Paper Supply Chain	1618
<i>Zahra Homayouni, Luc Lebel, Nadia Lehoux</i>	
Evaluating Street Sweeping Operational Efficiency: A Simulation-Based Study of a Traditional Versus Novel Sweeping Systems.....	1624
<i>Bechir Ben Daya, Jean-Francois Audy</i>	
Hard Disk Drive Failure Prediction with Explainable Time-Series Characteristics Tree and Large Language Model Hyperparameter Optimizer	1630
<i>Haozhou Zhou, Wei Li, Sagar Kamarthi</i>	
AirScope: Autonomous Building Inspections Using Drones.....	1636
<i>Joseph Damiano, Ali Saqib, Devan Shah, Laila Saleh</i>	
Enhancing Tensile Properties in Additively Manufactured Parts: A Study on PETG and Continuous Carbon Fiber Composites	1642
<i>Damira Dairabayeva, Ahmed Qureshi, Didier Talamona</i>	
A Joint Industrial Engineering and Urban Planning Approach for Designing an Optimal Electric Vehicle Charging Network	1648
<i>Shahab Sadri, Lihui Bai, Long Zheng</i>	
Demonstration-Guided Reinforcement Learning for Optimizing Outbound Container Stacking Problem	1654
<i>Hepu Pan, Canrong Zhang, Qi Wang</i>	
Redefining Value Creation: Assessing the Economic Impact of Digital Twin Technology Across Industries	1660
<i>Md Tarique Hasan Khan</i>	
A Simulation-Driven Hospital Facility Design Optimization Using a Priority-based Heuristic Algorithm	1666
<i>Duxiao Hao, Layan Abu-Ghoush, Yu Jin, Mohammad Khasawneh</i>	
Rule-Based Automated Cancer Staging from Scanned Pathology Reports.....	1672
<i>Xudong Wang, Zekai Wang, John Williams, Jose Tupayachi Silva, Bing Yao, Xueping Li, Ellen Perkins</i>	
Covering Routing Problem with Robots and Parcel Lockers: A Sustainable Last-Mile Delivery Approach	1678
<i>Nima Moradi, Fereshteh Mafakheri, Chun Wang</i>	
Assessing the Public Health Impacts: A Comprehensive Analysis of Health Externalities Related to Power Grid Expansion Plans	1684
<i>Michael Beacher, Tarun Arasu, Mark Rodgers, David Coit, Jennifer Senick</i>	
Exploring the Potential Adoption of Collaborative Autonomous Material Handling Vehicles/Robots in Non-Containerized Cargo Ports.....	1690
<i>Emna Mejri, Jean-François Audy</i>	
Impacts of Inter-Firm Collaboration for Supply Networks Harvesting Mixed Forests	1696
<i>Yannie Béland</i>	

Understanding DEI Initiatives and Performance Metrics in Food Bank Operations	1702
<i>Mikaya Hamilton, Steven Jiang, Lauren Davis</i>	
Integrated Modeling for Predicting COVID-19 Outbreaks: Wastewater and Hospitalization Insights	1708
<i>Osamah Yaeesh, Jessica Jurcsak, Yong Wang, Mohammad T. Khasawneh</i>	
To Security and Beyond: Cyber-Physical Security for Manufacturing Utilizing a Digital Twin Ecosystem.....	1714
<i>Madison Evans, Minas Pantelidakis, John Osho, Kaleigh McGahey, Konstantinos Mykoniatis, Gregory Purdy</i>	
Improving Barbershop Operational Efficiency Using a Comprehensive Work Methods Analysis	1720
<i>Emanuel Meshoyrer, Justin Cui, Amol Shirodkar</i>	
Multi-Source Biofuel Supply Chain Network Optimization	1725
<i>Sarasadat Alavi, Toryon Evans, Oluwatosin Atitebi, Atusa Javaheri, Yash Fand, Erick Jones</i>	
Financial Risk in Supply Chains: Predicting Bankruptcy in Private Firms Using Public Data	1731
<i>Ryan T. Jackovic, Reem Khir, Isabella T. Sanders</i>	
Using Machine Learning to Create a Hospital Revenue Prediction Model.....	1737
<i>Shrouq Al-Rawashdeh, Daehan Won, Mohammad Khasawneh</i>	
Unveiling Stress Responses Through Heart Rate Variability Analysis: A Machine Learning Approach	1743
<i>Shotabdi Roy, Mohsen Behradfar, Joseph Nuamah</i>	
Enhancing Operational Management of Shared Tools in a Job Shop with Digital Twins	1749
<i>Chloe Samuel, Pascal Forget, Jean-François Audy, Marc-Andre Gaudreau</i>	
Police In-Vehicle Technology Adaptation Based on Officer Cognitive State.....	1755
<i>Chihab Nadri, Ashutosh Chauhan, David Wozniak, Maryam Zahabi</i>	
Multi-Material 3D Plate Lattice Structures Using Fused Filament Fabrication Technique.....	1761
<i>Huzaiifa Hussain, Jesus Diaz, Roshira Premadasa, Qianyun Zhang, Chaitanya Mahajan</i>	
Individual International Research Portfolio Design in Higher Education: Building a Management Model for Sustainable Global Research and Scholarship in Future Complex Systems.....	1767
<i>Mario Beruvides</i>	
Resilient Suppliers Selection in Pharmaceutical Industry – an International Perspective	1773
<i>Juthy Mrittika, Md Sarder</i>	
Advanced Manufacturing Curriculum Development in Ohio High Schools and Community Colleges.....	1779
<i>Md Sarder</i>	
Personal Branding 101: Positioning Oneself for Early Career Success.....	1785
<i>Emanuel Meshoyrer, Thomas Matlock</i>	
Technology Benchmarking-SWOT for eVTOLs and Vertiports Based on Literature Review.	1790
<i>Hachimy Mariam, Laghrib Fatima, Hany Moustapha, Neila El Asli</i>	
Manufacturing – Revolutionizing Quality Control in 3D Printing with Generative Adversarial Networks	1796
<i>Amit Upadhye, Girish Sankrithi, Vishnu Iyengar</i>	

Optimal Route Planning Using Computer Simulation in the Context of Distributor-To-consumer Supply Network.....	1802
<i>Miriam M Aguilera, Md Fashiar Rahman, Dana Zamorano, Tenzin Lhaden, Tzu-Liang (Bill) Tseng</i>	
Optimizing Curb Space Management Through Dynamic Pricing	1808
<i>Armagan Bayram, Tien Nguyen</i>	
Contracting for Referral Coordination in a Tiered Service Network Via Pareto Optimization	1814
<i>Iris Layadi, Hongtao Yu, Nan Kong</i>	
Examination of the Factors Affecting Data and Statistical Analysis Adoption in Jordanian Retail Management Using TAM Model.....	1820
<i>Anas Hayajneh</i>	
Role of Simulation Modeling in Digital Twins for Enhanced Supply Chain Management: A Review	1826
<i>Syed Zaidi, Sharfuddin Ahmed Khan, Amin Chaabane</i>	
Enhancing Remaining Useful Life in Solid-State Batteries: Smart Battery Management System Strategies	1832
<i>Md Saidur Rahman, Huitian Lu</i>	
A Survey of Methods for Monitoring Covariance Matrix	1838
<i>Mohsen Ebadi, Shoja Chenouri, Dennis K. J. Lin, Stefan Steiner</i>	
Dynamic Analysis of Supply Chain from a Blockchain Perspective.....	1849
<i>Rehab M Ali, Thomas O'Neal</i>	
Finding Risk Aware, Equitably Efficient Benefit Allocations	1855
<i>Barkin Ekiz, Özlem Karsu</i>	
Sales Force Distribution with Linear Programming for a Telecommunications Company	1867
<i>Andrea Flores, Paola Pascua</i>	
Quantifying Productivity Gains with Collaborative Robots in a Simulated Manufacturing Assembly Operations	1873
<i>Nandhini Manikandan, Bhargav Lagudu, Sai Manohar Gandreddi, Thomas Ferris</i>	
Predicting Emotional Clusters: Analysis of Drivers' Valence and Arousal in Varied Environmental Conditions	1879
<i>Duha Alkurdi, Shiva Rasouli, Areen Alsaid, Walter J. Talamonti, Mansoor Nasir</i>	
Driving Emotions: Understanding Contextual Impacts Through an Interactive Shiny App.....	1885
<i>Shiva Rasouli, Duha Alkurdi, Areen Alsaid, Walter J. Talamonti, Mansoor Nasir</i>	
Pareto Powered Sampling: A Fresh Perspective on Sampling in Single Objective Batch Bayesian Optimization.....	1891
<i>Nazanin Nezami, Hadis Anahideh</i>	
Improving Forestry Transportation by Using Truck Platooning.....	1897
<i>Saba Gazran, Tassedda Boukherroub, Mikael Rönqvist</i>	
Enhancing In-Situ Monitoring in Additive Manufacturing with Conv1D Autoencoder: A Deep Learning Approach to Analyze Total Electron Emission 1D Signal.....	1903
<i>Temilola Gbadamosi-Adeniyi, Trevor McDonald, Scott Ferguson, Tim Horn</i>	

Resilient Healthcare 5.0: Advancing Human-Centric and Sustainable Practices in Smart Healthcare Systems.....	1910
<i>Goksu Avdan, Sinan Onal</i>	
Harnessing Rocket Technology for Strategic Humanitarian Logistics: A Simulation Perspective.....	1916
<i>L. Rabelo, M. Elkamel, J. Gutierrez, B. Ruiz</i>	
Sustainable Energy Management in Mobile Edge Computing Network with Multi-Agent Actor Critic Algorithm	1922
<i>Dhairyshel Patil, Nasim Nezamodini</i>	
Beyond Limits: Unleashing Industrial and Systems Engineering and AI for Swift, Inclusive Solutions to Global Sustainability Challenges.....	1928
<i>John M. Corliss Jr.</i>	
WISE Initiative: Empowering Women in Industrial and Systems Engineering – Impacts, Strategies, and Future Plans	1935
<i>Cassidy R. Nelson, Emerald Dudzinski, Tatiana Daychman, Niyousha Hosseinichimeh, Jannatul Shefa, Mahdis Tajdari, Maryam Rahimimovassagh</i>	
Randomized Rounding for the Preventive Healthcare Facility Location Problem.....	1941
<i>Taewoo Lee, Sangho Shim, Qian Zhao</i>	
Identifying Cognitive Decliners Using MRI and Blood Biomarkers	1947
<i>Samaneh Rezaeimanesh, Mohammad Fili, Parvin Mohammadiarvekeh, Guiping Hu, Auriel A. Willette</i>	
Improvement of Takt Time for Mining Truck Wheels.....	1953
<i>Jayed Pasha, Konner McCurdy, Francesca Nemetz, William Thompson, Junayed Pasha</i>	
Industry Superstars: Unmasking Key Features that Drive Firm- Level Performance in Chinese Markets Using Ensemble Learning with Genetic Algorithm.....	1957
<i>Omid Rostami, Mohammad Fili, Jonas Swope, Guiping Hu, Wendong Zhang, Wei Zhang</i>	
Enhancing Effectiveness Through the Fusion of Machine Learning, VC Simulation, and Agent-Based Modeling.....	1963
<i>L. Rabelo, L. Low, W. Jung, M. Elkamel, G. Lee</i>	
Using Participatory Agent-Based Modeling to Teach Systems Thinking for Inventory Control.....	1969
<i>Caroline Krejci, Preetam Kulkarni, Archit Paliwal, Bonnie Boardman</i>	
3D Modeling and Standardization to Improve Engineering Design Process.....	1975
<i>Daniel Washburn</i>	
Measuring the Effects of Lean and Green Manufacturing Practices on the Triple Bottom Line.....	1979
<i>L. Sundermann, V. Maier-Speredelozzi</i>	
Predicting Lifetime in Lithium-Sulfur Batteries, a Reliability Fuzzy Logic Approach.....	1985
<i>Rosas-Rangel Roberto, Valdivia-Moreno Oscar E., González-González David S., Arcibar-Orozco Javier A.</i>	
Decision Engineering Homologies with Quantum Mechanics: EDRM Proximity and the Born Rule.....	1991
<i>Thomas J. Monroe, Mario G. Beruvides</i>	
Greenwashing as an Educational and Ethical Sustainability Dilemma	1997
<i>Jauregui-Contreras, Jacqueline Crystal, Thierry-Aguilera, Arana-Solares, Ivan Andres</i>	

A Bayesian Predictive Inference with Parametric Regression Model for Battery SOH and RUL Predictions.....	2003
<i>Isaiah Oyewole, Meriam Chelbi, Abdallah Chehade</i>	
Object Process Methodology to Turning Focused System Architecture Design for Manufacturing	2009
<i>Prithbey Raj Dey, David Enke, Mario Buchely</i>	
Water Sustainable Education: Mexico’s Management Challenge Based Learning	2015
<i>Thierry-Aguilera, Flegl Martín, Arana-Solares, Garay-Prado Luis Diego</i>	
Integrated Model of Organizational Resilience: A Multi-Level System Dynamics Approach	2021
<i>Olufunke Oladimeji, Heather Keathley-Herring, Jennifer Cross</i>	
Battery State of Charge Prediction Based on Adaptive Knowledge Transfer Mechanism and Temporal Deep Learning Model.....	2027
<i>Isaiah Oyewole, Youngki Kim, Abdallah Chehade</i>	
MOFSAut: Multi-Task One-shot Feature Selection Autoencoder for Prognostics.....	2033
<i>Wael Hassanieh, Abdallah Chehade</i>	
Electric Vehicle Batteries End-Of-Life Management: A Systematic Literature Review of Return Rates and Influential Factors	2039
<i>Leila Talebi, Lin Guo</i>	
Developing a Predictive Model for Monitoring Renal Function in ICU Patients Undergoing Gabapentin Therapy: A Focus on Essential Lab Tests	2045
<i>Nasim Mousavi, Shengfan Zhang</i>	
Order Acceptance and Detailed Scheduling in a Job Shop with Discrete and Batch Processing Machines Using Heuristics.....	2050
<i>Dheeban Kumar Srinivasan Sampathia, Purushothaman Damodaran</i>	
Reliability Modeling and Redundancy Allocation for Systems of Dependent Components Using Copula Functions.....	2056
<i>Zhanhang Li, David W. Coit</i>	
Non-Fungible Tokens (NFTs): A Systematic Review of the State of Art of Valuation, Regulation, and Perception	2062
<i>Sundip Giri, Dongping Du, Mario Beruvides</i>	
Assessing Safety Programs and Strategies to Prevent Heavy Equipment Struck-by Incidents in Construction	2068
<i>David Kudlinksi, Ju Ryu</i>	

Author Index