# ENRICO LAOH

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## Brief About Me

I am Enrico Laoh, a PhD candidate in Industrial Engineering and Management, specializing in advancing human-AI collaborative systems for high-stakes decision-making. My current research integrates artificial intelligence with human reasoning to enhance transparency, adaptability, and trust in AI-driven decision systems. My work seeks to address these challenges by developing interpretable AI models that effectively communicate insights to human users and by designing incremental learning frameworks that allow AI systems to evolve while maintaining trust and reliability. I have been mainly focused on AI for disease prediction, including my NIH-funded work on AI for diabetic retinopathy screening. Additionally, I am exploring advanced technologies such as blockchain and continuous learning to create secure and adaptable AI systems for multi-disease prediction progression modelling. With multiple publications, awards, and leadership experiences, including guiding my INFORMS chapter to national recognition, I am dedicated to impactful research, interdisciplinary collaboration, and innovation. As a recipient of the i-CORPS Creativity, Innovation, and Entrepreneurship Scholar Award, funded by NASA, I have also developed a business plan to commercialize my research, emphasizing its real-world applicability and societal value.

## Educations

**Doctor of Philosophy,** OKLAHOMA STATE UNIVERSITY
Focus Area/Major: Industrial Engineering and Management
Degree GPA: 4.00/4.00

On-going
(All But Dissertation)

**Graduate Certificate,** OKLAHOMA STATE UNIVERSITY
Focus Area/Major: Business Analytics and Data Science
Degree GPA: 4.00/4.00

May 2023

**Master of Science,** OKLAHOMA STATE UNIVERSITY
Focus Area/Major: Industrial Engineering and Management
Degree GPA: 4.00/4.00

December 2022

**Master of Engineering,** UNIVERSITAS INDONESIA
Focus Area/Major: Data Engineering and Quality
Degree GPA: 4.00/4.00

July 2017

**Bachelor of Engineering,** UNIVERSITAS INDONESIA
Focus Area/ Major: Industrial Engineering
Degree GPA: 3.88/4.00

July 2016

**Certifications:** *Tableau Desktop Specialist*, *Amazon SageMaker Studio*, *Amazon Redshift*, *AWS MLOps*, *Six Sigma Green Belt*

## Selected Awards and Honors

- **Graduate Student Leadership Award**, School of Industrial Engineering and Management, 2025
  *Recognizes a graduate student who has demonstrated outstanding leadership abilities in student organizations.*

- **Lisa Zaken Award for Excellence**, Institute of Industrial and Systems Engineers, 2024
  *This international annual award, given only to one winner who has outstanding scholastic achievement, leadership, and dedication to the Industrial and Systems Engineering profession, demonstrates the highest of standards.*
- **Third place in the 2024 IISE ESD/QCRE/PG&E Energy Analytics Challenge**, 2024
  *Annual international competition by the Energy Analytics Society, judged by academia and industry practitioners.*
- **President Leadership Recognition**, Hargis Leadership Institute, 2024
  *Awarded for demonstrating exemplary leadership and impact within the university and broader community.*
- **Outstanding Graduate Student Award**, CEAT, Oklahoma State University, 2024
  *Selected as the top graduate student in the CEAT based on academic excellence and research achievements.*
- **Robberson Dissertation Fellowship**, Oklahoma State University, 2024
  *Recognized for outstanding doctoral research contributing to advancements in industrial engineering and data science.*
- **Roy and Virginia Dorrough Distinguished Graduate Fellowship**, Oklahoma State University, 2023, 2024, 2025, 2026
  *Awarded to recognize outstanding graduate students with evidence of exceptional academic performance and achievements, leadership experiences, and notable extracurricular or community engagement activity.*
- **Creativity, Innovation, and Entrepreneurship Scholar**, Spears School of Business, Oklahoma State University, 2021
  *Distinguished student with excellence, innovativeness, creativity, responsibility for change, engagement in one's surroundings, personal integrity, and strong moral character.*
- **IEEE SMC Society Merit Paper Awards**, 8th International Conference on Awareness Science and Technology (iCAST), 2017
  *Given to the most outstanding paper in the IEEE SMC academic society annually that is presented at the conference.*
- **IEEE Indonesia Section Best Presenter Award**, 3rd International Conference on Science in Information Technology (ICSITech), 2017
  *Given to the best-presented paper at the conference.*

# Work Experiences

**COMPUTATIONAL GENOMIC RESEARCH SCIENTIST**

**TRANSLATIONAL GENOMICS LABORATORY, STILLWATER, OKLAHOMA**

January 2026 to **present**

Collaborate with multidisciplinary omics teams to integrate multi-omics data and study the pathway from DNA to RNA to proteins and phenotypes. Apply computational modeling to convert large-scale biological data into testable hypotheses, leveraging expanding genomic resources. Advance scalable, whole-genome, and spatially adaptive approaches to improve phenotype assessment and variety development.

**DATA SCIENCE INTERN**

**UNITED AIRLINES INC., CHICAGO, ILLINOIS**

June 2024 to August 2024

Observe the pricing main model and understand the effect of demand forecasting. Update the demand forecasting model and test novel variables extracted from internal databases and external potential influence. Successfully reduced the forecasting *MAPE by 2%.*

**HEALTH DATA ANALYTICS RESEARCHER**

**CENTER FOR HEALTH SYSTEMS INNOVATION, STILLWATER, OKLAHOMA**

October 2022 to **present**

Develop frameworks and models to analyze healthcare data and synthesize knowledge to

support a medical-based decision-making system. *Funded by a $1.2M NIH Grant.*

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| **TEACHING AND RESEARCH ASSISTANT** | January 2021 To December 2025 |
| SCHOOL OF INDUSTRIAL ENGINEERING AND MANAGEMENT, OSU, OKLAHOMA | |

Give a tutorial and teach Industrial Engineering, Operations Management and Data Analytics-related courses.

Do research on collecting, extracting, and building interpretable and explainable Machine Learning models from human physiological data (EEG, ECG, Eye Motion, etc.) to measure their stress level and cognitive state to help industrial AI-based systems generate robust decisions.

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|---|---|
| **DATA SCIENCE EXPERT** | August 2019 to **present** |
| INDUSTRIAL ENGINEERING VENTURE UNIT, UI, INDONESIA | |

Providing optimal consulting and training services by leveraging expertise for private/government institutions in Indonesia.

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|---|---|
| **NON-TENURE TEACHING PROFESSOR and RESEARCHER** | August 2018 to December 2020 |
| INDUSTRIAL ENGINEERING DEPARTMENT, UI, INDONESIA | |

Do research on applying descriptive, predictive, and prescriptive analytics for a wide range of industrial problems such as network optimization, power generation, customer segmentation, natural language processing, and supply chain design.

Teach and conduct classes related to industrial engineering and data analytics.


# Publications

*Metrics: h-index 13 | i10-index 16 | 450 citations per December 2025*

## Patents

**PT002.** "**Permissioned Blockchain System for Halal Supply Chain Through Hyperledger Fabric Web-Based Application**" Indonesian Patent (Submitted)

**PT001.** "**Product Service Systems for CNC (Computer Numerically Controlled) Lathes Machine Maintenance using Integrated Web-Based Application**" (2024) Indonesian Patent No. IDP000092940

*PT0xx = i-th patent*

## Journal Articles and Conference Proceedings

### Healthcare Analytics

**J011**. Dhini, A., Dwi, K., Surjandari, I., **Laoh, E.**, Dzikri, A., "Prediction of LOS for Heart Disease Patient using Ensemble Machine Learning Approach." (working paper).

**J010**. Bani Ahmad, O., **Laoh, E.**, Liu, T., "Risk-Confidence Ordinal Scoring (RCOS): A Decision-Optimization and Calibration Framework for Early Stroke Subtype Prediction from Routine Electronic Health Records." (Computers in Biology and Medicine - submitted).

**J009**. **Laoh, E.**, Liu, T., "Incremental Learning with Multi-Group Data Stream for Diabetic Retinopathy Prediction" (IEEE Transactions on Knowledge and Data Engineering – under review).

**J008**. **Laoh, E.**, Adelia, F., Zulkarnain, "Temporal Neuron based Artificial Neural Network Model for Blood Components Demand Forecasting" (Journal of Medical Internet Research Artificial Intelligence – under review).

**J005**. Bani Ahmad, O., **Laoh, E.**, Liu, T., "Temporal Machine Learning Models for Early Stroke Subtype Prediction Using Laboratory Data." (2025) International Journal of Medical Informatics – preprint, DOI: 10.2139/ssrn.5680004

**C023**. Bani Ahmad, O., **Laoh, E.**, Liu, T., "Designing a Pruning and Merging Method to Achieve Simple Rules for Diabetic Retinopathy Screening with Routine Lab Results." (2025) Institute of Industrial and Systems Engineers Annual Proceedings, DOI: 10.21872/2025IISE_8832

**J004**. **Laoh, E.**, Liu, T., "A Robust and Trustable Approach to Incorporate Medical Domain Knowledge in Machine Learning Models for Diabetic Retinopathy Screening Using Routine Lab Results" (2024) Smart Health Journal – preprint, DOI: 10.2139/ssrn.4950302

**C022**. Rahmadianti, R., Dhini, A., **Laoh, E.**, "Estimating customer lifetime value using LRFM model in pharmaceutical and medical device distribution company." (2020) International Conference on ICT for Smart Society (ICISS), DOI: 10.1109/ICISS50791.2020.9307592

**C014**. Pramono, P.P., Surjandari, I., **Laoh, E.**, "Estimating customer segmentation based on customer lifetime value using two-stage clustering method." (2019) International Conference on Service Systems and Service Management, DOI: 10.1109/ICSSSM.2019.8887704

## Behavioral Analytics and Text Mining

**C021**. Dhini, A., Budiani, L.R., **Laoh, E.**, "Segmenting and Targeting the Potential Markets of a Muslim Fashion Company." International Conference on ICT for Smart Society (ICISS) 2020, DOI: 10.1109/ICISS50791.2020.9307604.

**J001**. Surjandari, I., Wayasti, R.A., **Laoh, E.**, Zulkarnain, Rus, A.M.M., Prawiradinata, I. "Mining public opinion on ride-hailing service providers using aspect-based sentiment analysis." International Journal of Technology, Vol 10, No 4 (2019) pages: 818-828. DOI: 10.14716/ijtech.v10i4.2860.

**C013**. Prabaningtyas, N.I., Surjandari, I., **Laoh, E.**, "Mining customers opinion on services and applications of mobile payment companies in Indonesia using sentiment analysis approach." Proceeding of 16th International Conference on Service Systems and Service Management, ICSSSM, Shenzhen: 2019, DOI: 10.1109/ICSSSM.2019.8887643.

**C011**. **Laoh, E.**, Surjandari, I., Febirautami, L. R. "Indonesian's Song Lyrics Topic Modelling using Latent Dirichlet Allocation." Proceeding of 5th International Conference on Information Science and Control Engineering, Zhengzhou: 2018, pp. 270-274. DOI: 10.1109/ICISCE.2018.00064.

**C010**. Febirautami, L. R., Surjandari, I., **Laoh, E.** "Determining Characteristics of Popular Local Songs in Indonesia's Music Market." Proceeding of 5th International Conference on Information Science and Control Engineering, Zhengzhou: 2018, pp. 197-201. DOI: 10.1109/ICISCE.2018.00050.

**C009**. Azitha, R., Surjandari, I., **Laoh, E.** "Mining Information Search Pattern on Website: A case study of educational institution." Proceeding of 5th International Conference on Information Science and Control Engineering, Zhengzhou: 2018, pp. 326-330. DOI: 10.1109/ICISCE.2018.00075.

**C008**. Surjandari, I., Rosyidah, A., Zulkarnain, **Laoh, E.** "Mining Web Log Data for News Topic Modeling Using Latent Dirichlet Allocation." Proceeding of 5th International Conference on Information Science and Control Engineering, Zhengzhou: 2018, pp. 331-335. DOI: 10.1109/ICISCE.2018.00076.

**C007**. Prameswari, P., Surjandari, I., **Laoh, E.** "Opinion mining from online reviews in Bali tourist area," 2017 3rd International Conference on Science in Information Technology (ICSITech), Bandung, 2017, pp. 226-230. DOI: 10.1109/ICSITech.2017.8257115.

**C006**. Prameswari, P., Zulkarnain, Surjandari, I., **Laoh, E.** "Mining online reviews in Indonesia's priority tourist destinations using sentiment analysis and text summarization approach," 2017 IEEE 8th International Conference on Awareness Science and Technology (iCAST), Taichung, Taiwan, 2017, pp. 121-126. DOI: 10.1109/ICAwST.2017.8256429.

## Optimization and Operations Management

**J007**. Khrisnan, D., R., **Laoh, E.**, Liu, T., "Multi vehicle pickup-and-delivery problem with time windows and handling costs." (Transportation Research Part B - under review).

**J006**. Puspitadewi, C. H., Arian Dhini, A., **Laoh, E.**, Sudiana, D., "GIS-Based Wildfire Prediction Model in Indonesia using Stacking Ensemble Learning." (Artificial Intelligence in Geosciences – under review)

**J003**. Surjandari, I., Dzikri, A., Dhini, A., **Laoh, E.**, Dwi, K., Ferrouzi, D., "Stacked Generalization with Sequential-Model Based Optimization for estimating Used Car Valuation in Indonesia." (2024) Engineering, Technology & Applied Science Research. DOI: 10.48084/etasr.8226.

**J002**. Surjandari, I., Yusuf, H., **Laoh, E.**, Maulida, R. "Designing a Permissioned Blockchain Network for the Halal Industry Using Hyperledger Fabric with Multiple Channels and the Raft Consensus Mechanism." Journal of Big Data (2021). Springer. DOI: 10.1186/s40537-020-00405-7.

**C020**. Syaputra, A., **Laoh, E.**, "Customer Segmentation on Returned Product Customers Using Time Series Clustering Analysis." (2020) International Conference on ICT for Smart Society, DOI: 10.1109/ICISS50791.2020.9307575

**C019**. Ramadhani, S., Dhini, A., **Laoh, E.**, "Airline Passenger Forecasting using ARIMA and Artificial Neural Networks Approaches." International Conference on ICT for Smart Society (ICISS) 2020, DOI: 10.1109/ICISS50791.2020.9307571

**C018**. Amira, R.F., Surjandari, I., **Laoh, E.**, "Jakarta Flood Risk Mapping Using Index-based Approach and Spatial Analysis." International Conference on ICT for Smart Society (ICISS) 2020, DOI: 10.1109/ICISS50791.2020.9307583

**C017**. Ilham, M.Y., Surjandari, I., **Laoh, E.**, "Analyzing highway road accident characteristic using data mining." International Workshop on Big Data and Information Security, IWBIS 2020, DOI: 10.1109/IWBIS50925. 2020.9255655.

**C016**. Hidayattullah, S., Surjandari, I., **Laoh, E.**, "Financial statement fraud detection in Indonesia listed companies using machine learning based on meta-heuristic optimization." International Workshop on Big Data and Information Security, IWBIS 2020, DOI: 10.1109/IWBIS50925.2020.9255426.

**C015**. Nur Prasasti, I.M., Dhini, A., **Laoh, E.**, "Automobile Insurance Fraud Detection using Supervised Classifiers." International Workshop on Big Data and Information Security, IWBIS 2020, DOI: 10.1109/IWBIS50925. 2020.9255563.

**C012**. Nadinta, D.S., Surjandari, I., **Laoh, E.**, "A clustering-based approach for reorganizing bus route on bus rapid transit system." Proceeding of 16th International Conference on Service Systems and Service Management, ICSSSM, Shenzhen: 2019, DOI: 10.1109/ICSSSM.2019.8887689.

**C005**. **Laoh, E.** Surjandari, I., Zulkarnain, "Reconfiguring oil distribution route using graph partitioning and graph optimization," 2017 IEEE 8th International Conference on Awareness Science and Technology (iCAST), Taichung, Taiwan, 2017, pp. 103-108. DOI: 10.1109/ICAwST.2017.8256426.

**C004**. **Laoh, E.** Surjandari, I., Dhini, A. "Electricity distribution clustering and configuration study using KM-MST," 2017 3rd International Conference on Science in Information Technology (ICSITech), Bandung, 2017, pp. 138-143. DOI: 10.1109/ICSITech.2017.8257099.

**C003**. Yuniarti, T., Surjandari, I., Muslim, E., **Laoh, E.** "Data mining approach for short term load forecasting by combining wavelet transform and group method of data handling (WGMDH)," 2017 3rd International Conference on Science in Information Technology (ICSITech), Bandung, 2017, pp. 53-58. DOI: 10.1109/ICSITech.2017.8257085.

**C002**. **Laoh, E.** Surjandari, I., Dhini, A. "Clustered Electricity Distribution Configuration Using KM-MST Algorithm." Proceeding of International Conference on Computer Science and Technology, Seoul: 2016.

**C001**. Maharani, A., Surjandari, I., Rachman, A., **Laoh, E.** "Graph Theory Approach to Analyze Reliability Index of Gas and Steam Power Plant." Proceeding of International Conference on Computer Science and Technology, Seoul: 2016.

## Selected Talks and Presentations

**IT004. "Introduction to Data Visualization and Storytelling."** Guest Lecture, Department of Electrical and Computer Engineering, Universitas Indonesia, Depok, December 2025.

**P012. "Incremental Learning with Multi-Group Data Stream for Diabetic Retinopathy Prediction"** INFORMS Annual Meeting 2025, Atlanta, Georgia, *scheduled for October 2025*.

**P011. "An Approach for Electricity Price Predictions: Leveraging Machine Learning Model and Multivariate Time Series Analysis"** IISE Annual Meeting 2024, Montreal, Canada, *May 2024*.

**IT003. "Big data analytics for healthcare."** National Board of Physicians of Indonesia, September 2023.

**P010. "A Modified Feature Selection Method to Build Interpretable and Trustable Machine Learning Model."** INFORMS Annual Meeting 2023, Phoenix, Arizona, October 2023.

**P009. "Human-Centred Explainable Artificial Intelligent (XAI)."** INFORMS Annual Meeting 2021, Anaheim, California, October 2021.

**IT002. "Data Science and Its Applications."** SPWI Seminar Series, Depok, April 2019.

**IT001. "Data Mining with R."** Data Mining Training SQE UI, Depok, September 2018**.**

**P008. "Enhancing hospitality sentiment reviews analysis performance using SVM N-grams method."** 16th International Conference on Service Systems and Service Management, Shenzhen, July 2019.

**P007. "Indonesian's Song Lyrics Topic Modelling using Latent Dirichlet Allocation."** 5th IEEE International Conference on Information Science and Control Engineering, Zhengzhou, July 2018.

**P006. "Reconfiguring oil distribution route using graph partitioning and graph optimization.",** IEEE 8th International Conference on Awareness Science and Technology, Taichung, Taiwan, November 2017.

**P005. "Neural network-based system for detecting and diagnosing faults in steam turbine of thermal power plant.",** IEEE 8th International Conference on Awareness Science and Technology, Taichung, Taiwan, November 2017.

**P004. "Electricity distribution clustering and configuration study using KM-MST",** IEEE 3rd International Conference on Science and Technology, Bandung, Indonesia, October 2017.

**P003. "Data mining approach for short term load forecasting by combining wavelet transform and group method of data handling (WGMDH)",** IEEE 3rd International Conference on Science and Technology, Bandung, Indonesia, October 2017.

**P002. "Opinion mining from online reviews in Bali tourist area",** IEEE 3rd International Conference on Science and Technology, Bandung, Indonesia, October 2017.

**P001. "Clustered Electricity Distribution Configuration Using KM-MST Algorithm.",** International Conference on Computer Science and Technology Workshop, Seoul, South Korea, November 2016.

## Selected Thesis Examiner

### Healthcare Analytics

**ET039.** Klairine Mariana Rustan, Improved Design and Construction of Hospital Blood Bank Inventory Management Using an Information System Through the Internet of Things Application, 2020

**ET038.** Zara Jesica Azra, Designing Radiological Health Equipment Maintenance Process Improvement with the Support of Internet of Things (IoT), 2020

**ET035.** Derryl Reyhan Zaradi, Analysis of Technology Model Adoption on Health Observation Through Smartwatches and Fitness Bands in Generation Y, X, and Baby Boomers in Indonesia, 2019

**ET034.** Wafa Makhasha Ulfah, Model Development to Determine Optimal Drug Inventory by Using Mixed Integer Linear Programming (MILP) in Public Health Services, 2019

**ET017.** Firas Ammar Akbar, Prioritization of User's Preferences for Using mHealth Services in Jakarta with Analytic Hierarchy Process (AHP) Approach, 2018

## Behavioral Analytics and Text Mining

**ET033.** Nadya Syabila, Strategy Recommendation for Paylater Acceptance and Loyalty on Generation Z in Jabodetabek, 2020

**ET032.** Pelangi Putri, Designing Strategy Based on Experiential Values Factors Towards Customers' Revisit Intention in Coffee Shop Inside Universitas Indonesia, 2020

**ET031.** Doni Pratama, Analysis of the Effect of Learning Media (Digital Based Vs Print Based) on the Ability to Understand Material in Terms of Attention and Mental Effort, 2020

**ET030.** Chandatama Olivia Pramesti, Strategic Planning to Increase Intention to Donate Money on Indonesia's Online Crowdfunding Platform, 2020

**ET029.** Faishal Ahmad Andya Aji, Strategy Design to Increase Customer Loyalty of Fitness Center Based on the Factors of Perceived Quality and Service Convenience, 2020

**ET028.** Aliffa Safitri, Policy Formulation to Increase Market Share of Indonesian Islamic Banking Using System Dynamics Approach, 2020

**ET024.** Niko Muhammad Iskandar, Strategies to Increase Willingness to Lend Toward Peer-to-Peer Lending Companies Operated in Indonesia, 2019

**ET023.** Sri Wulandari Ningrum, Strategies to Increase Customer Satisfaction and Customer Loyalty Based on Customer Perceived Values Factors in Grandkemang Hotel Jakarta, 2019

**ET022.** Muhammad Zeid Masyhur, Designing Strategies to Improve Performance by Considering the Aspects of Sustainability in Clothing Services SME Using Fuzzy AHP Method, 2019

**ET018.** Annisa Nibras Adiba, Measurement of Customers and Employees Engagement Value with Human Sigma Method for Planning Company's Management Strategy: Case Study: HIS Wedding Event Planner, 2018

## Optimization and Operations Management

**ET037.** Jihad Alif, Sustainable Production Modelling in Cement Industry Using System Dynamics, 2020

**ET036.** Andini Eka Ramadhani, Analysis of Drivers and Barriers to the Implementation of Integrated Plastic Waste Management in Indonesia Using DEMATEL, 2020

**ET035.** Dicky Nurachman, Feasibility Investment Analysis of Geothermal Project Development Using Financial Modelling (Study Case: Lumut Balai Geothermal Power Plant), 2020

**ET034.** Muhammad Shaddam Muzaki, Policy Analysis of the Geothermal Power Plant Capacity Development in Indonesia with System Dynamics Modeling, 2020

**ET033.** Bramanda Dwi Putra, Selection of Charging Station Technology to Support the Adoption of Electric Vehicles in Indonesia with the AHP-TOPSIS Method, 2020

**ET027.** Renaldhi Dwidinda Suharno, Quality Improvement of Lamination Process Results in the Packaging Industry by Using the Six Sigma Method, 2019

**ET026.** Galih Prier Aditiya, Remanufacturing Capacity Planning Model for Multigeneration Television Products in Closed Loop Supply Chain with System Dynamics Method, 2019

**ET025.** Sarah Rotua Harianja, Designing Strategies to Improve the Service Quality of Bus Rapid Transit (BRT) Transjakarta Corridor 13 Using Integration of Kano-Quality Function Deployment Method, 2019

**ET016.** Arin Wulandari, Comparative Analysis of Empennage Design Indonesian Aircraft Project Scheduling with Critical Path Method CPM and Critical Chain Project Management CCPM, 2018

**ET015.** Muhammad Rifai, Designing Scheduling Arrival of Container Trucks with Trucks Turnaround Time Method at Terminal Peti Kemas Selatan PT Pelabuhan Tanjung Priok, 2018

**ET014.** Irena Yasmin Djohan, Helicopter Flight Services Pricing for Tourism Purposes and Intercity Travel by Using Cost Plus Pricing Method, 2018

**ET013.** Agustina Windaryanti, Improvement Design of Supply Chain Management Implementation in Food MSME, 2018

**ET012.** Juan Siva, Design Improvement of SME's Business Process in Fashion Industry for Adopting E-Commerce Efficiently, 2018

**ET011.** Rossy Nicoline Subrana, Designing Strategies for Improving the Quality of Ragunan Wildlife Park Service Using Quality Deployment Method, 2018

**ET010.** Salma Tarizka Noor, Designing Strategies to Reduce Industrial Greenhouse Gas Emissions in Indonesia Using a System Dynamic Approach, 2018

**ET009.** Julia Eka Citra, Optimization of Water Truck Usage in Watering Coal Mine Using Integer Linear Programming, 2018

**ET008.** Fairuz Qalbi Andara, Risk Mitigation on Supply Chain of Livestock Industry Using House of Risk Approach, 2018

**ET007.** Vadhel Iqbal, Business Process and Card Procurement Mapping of PT MRT Jakarta at the Station Using Inventory Management Analysis, 2018

**ET006.** Ni Putu Dirda Putri, Optimization of Production Scheduling in Shoe Companies with Goal Programming Method, 2018

**ET005.** Faisal Ahmad Ridho, Investment Feasibility Study of N-219 Aircraft Purchasing for Pioneer Flight in North Kalimantan Province with Capital Budgeting Method, 2018

**ET004.** Rizky Anugerah Pratama, Improvement Recommendation to Eliminate Waste on the Production Process of Line Laminating Door Component of Joint Core Laminating Skin with Value Stream Mapping and Waste Assessment Model Method, 2018

**ET003.** Aldeina Putriandita, Designing Implementation Strategy for Internet of Things (IoT) on Logistic Transportation Sector in Indonesia Using Analytic Network Process Method, 2018

**ET002.** Panji Wara Rahmadhani, Lean Supply Chain Designing in SMEs Fashion E-Commerce Business Process Reengineering Approach, 2018

**ET001.** Fitri K. Tambunan, Repair Line Production with Lean Production System Based Approach VSM (Value Stream Mapping), 2018

*ET0xx = i-th examined thesis*

## Funding History

**G012. Empowering Cloud Computing for Non-image-based Diabetic Retinopathy Screening by Designing an EHR-oriented Incremental Learning Framework.** (2023) NIH-NEI: NOT-OD-23-070 *(Researcher)*

**G011. Harnessing Tensor Information to Improve EHR Data Quality for Accurate Data-driven Screening of Diabetic Retinopathy with Routine Lab Results.** (2022) NIH-NEI: 5R01EY033861 *(Researcher)*

**G010. Application of Supervised Learning Algorithms in the Service Industry.** (2022) PUTI No. NKB-1337/UN2.RST/HKP.05.00/2022 *(Co-PI)*

**G009. Application of Big Data Analytics to Improve the Quality of Risk Analysis.** (2020) PUTI No. NKB-1702/UN2.RST/HKP.05.00/2020 *(Co-PI)*

**G008. Development of Time Series Forecasting Models Using a Data-Driven Approach.** (2020) PUTI No. NKB-1133/UN2.RST/HKP.05.00/2020 *(Co-PI)*

**G007. Escalating Company Performance Using a Data Mining Approach.** (2020) PUTI No. NKB-1070/UN2.RST/HKP.05.00/2020 *(Co-PI)*

**PR001. Framework and Detailed Process Flow for an Asset Management System aligned with Digital Transformation & Solutions in the Electric Power Generation Industry.** (2020) Java-Bali Power Generation Company. *(Co-PI)*

**G006. Application of Data Mining to Accelerate Performance Improvement in the Manufacturing and Service Sectors.** (2019) PIT-9 No. NKB-0061/UN2.R3.1/HKP.05.00/2019 *(Co-PI)*

**G005. Improving Operational Effectiveness and Efficiency Through Data-Driven Method Approaches.** (2018) PITTA No. 2455/UN2.R3.1/HKP.05.00/2018 *(Co-PI)*

**G004. Enhancing the Competitiveness of Indonesia's Service Industry Through Big Data Analysis.** (2018) PITTA No. 787/UN2.R3.1/HKP.05.00/2017 *(Researcher)*

**G003. Application of Data-Driven Methods to Improve the Performance of State-Owned Enterprises.** (2017) PITTA No. 788/UN2.R3.1/HKP.05.00/2017 *(Researcher)*

**G002. Achieving Electrical Energy Resilience in Indonesia Through Improving Reliability, Forecasting Quality, and Electricity Distribution Using Data Mining and Graph Theory.** (2016) PITTA No. 2132/UN2.R12/HKP.05.00/2016 *(Researcher)*

**G001. Economic Indicator Data Analysis Using Data Mining to Predict Company Performance and Financial Fraud in Order to Improve Competitiveness and the Investment Climate in Indonesia.** (2016) PITTA No. 2134/UN2.R12/HKP.05.00/2016 *(Researcher)*

*G0xx = i-th government funding; PR0xx = i-th private funding*

## Professional Memberships

- **Institute for Operations Research and the Management Sciences (INFORMS)**
  OSU Chapter President (2022-2023): Won the cum laude chapter award.
  Member since 2019.
- **Institute of Industrial and Systems Engineers (IISE)**
  Member since 2021.
- **American Medical Informatics Association (AMIA)**
  Member since 2025.

## Professional Services

### Reviewer
- European Journal of Operational Research
- Decision Analytics Journal
- Engineering Applications of Artificial Intelligence
- Journal of the American Medical Informatics Association
- Journal of Intelligent Manufacturing
- Social Sciences & Humanities Open Journal
- Sustainable Future Journal
- PeerJ Computer Science Journal
- Ain Shams Engineering Journal
- Indonesian Journal of Electrical Engineering and Computer Science

### Conference Committee
- **Technical Program Chair**, Asia Pacific Conference on Research in Industrial and Systems Engineering
- **Scientific Committee**, Asia Pacific Conference on Research in Industrial and Systems Engineering

# Teaching

- IEM 4723: Information Systems Design and Development, Oklahoma State University
- IEM 5603: Project Management, Oklahoma State University
- IEM 5990: Advanced Data Analytics, Oklahoma State University
- IEM 4913: Senior Design, Oklahoma State University
- IEM 3503: Engineering Economic Analysis, Oklahoma State University
- IEM 3513: Economic Decision Analysis, Oklahoma State University
- IEM 3813: Work Design, Ergonomics, and Human Performance, Oklahoma State University
- ENGE600001: Calculus, Universitas Indonesia
- ENGE600002: Linear Algebra, Universitas Indonesia
- ENGE600011: Engineering Economics, Universitas Indonesia
- ENIE601002: Introduction to Economics, Universitas Indonesia
- ENIE601004: Probability Theory, Universitas Indonesia
- ENIE603006: Basic Statistics, Universitas Indonesia
- ENIE603007: Linear Programming, Universitas Indonesia
- ENIE604011: Industrial Statistics, Universitas Indonesia
- ENIE604015: Computational Method for IE, Universitas Indonesia
- ENIE604016: Operations Research, Universitas Indonesia
- ENIE606051: Decision, Uncertainty and Risk, Universitas Indonesia
- ENIE616027: Information System, Universitas Indonesia
- ENIE801006: Advanced Statistics for IE, Universitas Indonesia
- ENIE802537: Decision Analysis and Risk Management, Universitas Indonesia
- ENIE803433: Multivariate Data Analysis, Universitas Indonesia
- ENGE600003: Fundamentals of Physics, Universitas Indonesia
- ENGE600005: Statistics and Probability, Universitas Indonesia

| Course | Position | Semester | Instructor Rating | Class Type |
|---|---|---|---|---|
| IEM 4723 | GTA | Fall 2025 | n.a. | In-person |
| IEM 5603 | GTA | Summer 2025 | n.a. | Online |
| IEM 5990 | GTA | Fall 2024 | n.a. | In-person |
| IEM 4913 | GTA | Spring 2023 | n.a. | In-person |
| IEM 4913 | GTA | Fall 2022 | n.a. | In-person |
| IEM 3813 | GTA | Fall 2022 | n.a. | In-person & Lab |
| IEM 4913 | GTA | Spring 2022 | n.a. | In-person |
| IEM 4913 | GTA | Fall 2021 | n.a. | In-person |
| IEM 3503 | GTA | Summer 2021 | n.a. | Online |
| IEM 3513 | GTA | Spring 2021 | n.a. | In-person |
| ENGE600001 | Instructor | Ganjil 2020 | 5.42 of 6.00 | Regular |
| ENGE600001 | Instructor | Ganjil 2019 | 5.18 of 6.00 | Regular |
| ENGE600001 | Instructor | Ganjil 2018 | 4.95 of 6.00 | Regular |
| ENGE600002 | Instructor | Genap 2020 | 5.20 of 6.00 | Regular |
| ENGE600002 | Instructor | SP 2019 | 5.53 of 6.00 | Regular |
| ENGE600002 | Instructor | Genap 2019 | 5.02 of 6.00 | Regular |
| ENGE600002 | Instructor | SP 2018 | 5.42 of 6.00 | Regular |
| ENGE600011 | Instructor | SP 2019 | 4.90 of 6.00 | Regular |
| ENIE601002 | Instructor | Ganjil 2020 | 5.73 of 6.00 | Regular |
| ENIE601002 | Instructor | Ganjil 2019 | 5.59 of 6.00 | Regular |
| ENIE601002 | Instructor | Ganjil | 5.40 of | Regular |

| Course | Position | Semester | Instructor Rating | Class Type |
|---|---|---|---|---|
| | | 2018 | 6.00 | |
| ENIE601004 | Instructor | Ganjil 2020 | 5.70 of 6.00 | Regular |
| ENIE603006 | Instructor | Ganjil 2020 | 5.55 of 6.00 | Regular |
| ENIE603006 | Instructor | Ganjil 2019 | 5.09 of 6.00 | International |
| ENIE603006 | Instructor | Ganjil 2018 | 5.46 of 6.00 | International |
| ENIE603006 | Instructor | Ganjil 2017 | 5.04 of 6.00 | International |
| ENIE603007 | Instructor | Ganjil 2019 | 5.04 of 6.00 | International |
| ENIE604011 | Instructor | Genap 2019 | 5.59 of 6.00 | International |
| ENIE604011 | Instructor | Genap 2018 | 5.29 of 6.00 | International |
| ENIE604015 | Instructor | Genap 2020 | 4.90 of 6.00 | Regular |
| ENIE604015 | Instructor | Genap 2018 | 5.29 of 6.00 | International |
| ENIE604016 | Instructor | Genap 2020 | 5.16 of 6.00 | International |
| ENIE604016 | Instructor | Genap 2018 | 5.31 of 6.00 | Regular |
| ENIE606051 | Instructor | Genap 2020 | 5.46 of 6.00 | Regular |
| ENIE606051 | Instructor | Genap 2019 | 5.59 of 6.00 | International |
| ENIE606051 | Instructor | Genap 2019 | 5.57 of 6.00 | Regular |
| ENIE616027 | Instructor | Genap 2020 | 5.56 of 6.00 | International |
| ENIE616027 | Instructor | Genap 2019 | 5.34 of 6.00 | International |
| ENIE601002 | GTA | Ganjil 2016 | n.a. | Regular |
| ENIE603006 | GTA | Ganjil | n.a. | Regular |

| Course | Position | Semester | Instructor Rating | Class Type |
|--------|----------|----------|-------------------|------------|
| | | 2016 | | |
| ENIE801006 | GTA | Genap 2017 | n.a. | Regular |
| ENIE802537 | GTA | Genap 2017 | n.a. | Regular |
| ENIE803433 | GTA | Ganjil 2016 | n.a. | Regular |

| Course | Position | Semester | Instructor Rating | Class Type |
|--------|----------|----------|-------------------|------------|
| ENGE600002 | UTA | Genap 2015 | n.a. | Regular |
| ENGE600003 | UTA | Ganjil 2014 | n.a. | Regular |
| ENGE600005 | UTA | Genap 2014 | n.a. | Regular |

***Notes***: 
*GTA = Graduate Teaching Assistant*  *UTA = Undergraduate Teaching Assistant*
*Ganjil = similar to Fall Term*  *Genap = similar to Spring Term*  *SP = similar to Summer Term*
*Regular = class taught entirely in Indonesian*  *International = class taught entirely in English*

# References

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