

Foreword

In October 2025, the Industrial Engineering Program at the University of Lima held the Fourth International Conference on Industrial Engineering, under the theme “AI, Operations Research, and Data Analytics in Industrial Engineering.” The conference theme brought together three essential components of today’s industrial landscape, whose convergence is shaping a new frontier in operational efficiency for both companies and institutions.

The conference offered an opportunity to share research findings and professional experiences on the ways in which intelligent systems are transforming the production of goods and services, decision-making, and real-time resource optimization. More importantly, it invited reflection on the role and capabilities of industrial engineers in harnessing the potential of AI, data, and research to improve our surroundings and help address challenges of genuine relevance to both the productive sector and society at large. The currency and importance of these issues drew more than 1,000 participants, including students, academics, and professionals.

On this occasion, a significant group of students from the Industrial Engineering Program at the University of Lima, Peru, presented research projects that, in every case, contributed to addressing real engineering challenges faced by Peruvian companies.

I am pleased to introduce these conference proceedings, which bring together the contributions of the event’s international speakers, as well as the work of researchers who shared their findings with enthusiasm and academic rigor. Readers will find in these pages a balanced selection of presentations on successful business applications, topics of considerable academic interest, and student research contributions.

The national and international speakers offered compelling evidence of the power of big data and its use in continuous improvement, trend forecasting, and process optimization. They also demonstrated the value of modeling methodologies and tools in addressing highly complex problems. I therefore invite readers to engage with these proceedings and benefit from the valuable work gathered here.

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