1. Record Nr. UNINA9910682598903321

Titolo	Machine Learning and Flow Assurance in Oil and Gas Production / / edited by Bhajan Lal, Cornelius Borecho Bavoh, Jai Krishna Sahith Sayani
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-24231-9
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (179 pages)
Disciplina	060 665.5440285631
Soggetti	Cogeneration of electric power and heat Fossil fuels Petrology Production engineering Industrial engineering Fluid mechanics Fossil Fuel Process Engineering Industrial and Production Engineering Engineering Fluid Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1: Machine Learning and Flow Assurance Issues -- Chapter 2: Machine Learning in Oil and Gas Industry -- Chapter 3: Multiphase Flow Systems and Potential of Machine Learning Approaches in Cutting Transport and Liquid Loading Scenarios -- Chapter 4: Machine Learning in Corrosion -- Chapter 5: Machine Learning in Asphaltenes Mitigation -- Chapter 6: Machine learning for Scale deposition in oil and gas industry -- Chapter 7: Machine Learning in CO2 sequestration -- Chapter 8: Machine Learning in Wax Deposition -- Chapter 9: Machine Learning Application in Gas Hydrates -- Chapter 10: Machine Learning Application Guidelines in Flow Assurance.
Sommario/riassunto	This book is useful to flow assurance engineers, students, and industries who wish to be flow assurance authorities in the twenty-

first-century oil and gas industry. The use of digital or artificial intelligence methods in flow assurance has increased recently to achieve fast results without any thorough training effectively. Generally, flow assurance covers all risks associated with maintaining the flow of oil and gas during any stage in the petroleum industry. Flow assurance in the oil and gas industry covers the anticipation, limitation, and/or prevention of hydrates, wax, asphaltenes, scale, and corrosion during operation. Flow assurance challenges mostly lead to stoppage of production or plugs, damage to pipelines or production facilities, economic losses, and in severe cases blowouts and loss of human lives. A combination of several chemical and non-chemical techniques is mostly used to prevent flow assurance issues in the industry. However, the use of models to anticipate, limit, and/or prevent flow assurance problems is recommended as the best and most suitable practice. The existing proposed flow assurance models on hydrates, wax, asphaltenes, scale, and corrosion management are challenged with accuracy and precision. They are not also limited by several parametric assumptions. Recently, machine learning methods have gained much attention as best practices for predicting flow assurance issues. Examples of these machine learning models include conventional approaches such as artificial neural network, support vector machine (SVM), least square support vector machine (LSSVM), random forest (RF), and hybrid models. The use of machine learning in flow assurance is growing, and thus, relevant knowledge and guidelines on their application methods and effectiveness are needed for academic, industrial, and research purposes. In this book, the authors focus on the use and abilities of various machine learning methods in flow assurance. Initially, basic definitions and use of machine learning in flow assurance are discussed in a broader scope within the oil and gas industry. The rest of the chapters discuss the use of machine learning in various flow assurance areas such as hydrates, wax, asphaltenes, scale, and corrosion. Also, the use of machine learning in practical field applications is discussed to understand the practical use of machine learning in flow assurance.

2. Record Nr. UNINA9911034954303321

Autore	Mishra Shitanshu
Titolo	Proceedings of the International Conference on Technology 4 Education 2024, Volume 2 / / edited by Shitanshu Mishra, Aditi Kothiyal, Sridhar Iyer, Sameer Sahasrabudhe, Andreas Lingnau, Rita Kuo
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9517-34-6
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (540 pages)
Collana	Lecture Notes in Educational Technology, , 2196-4971
Altri autori (Persone)	KothiyalAditi IyerSridhar SahasrabudheSameer LingnauAndreas KuoRita
Disciplina	371.33
Soggetti	Educational technology Education - Data processing Teaching Digital Education and Educational Technology Computers and Education Pedagogy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Theme 1: Development of technologies to support education -- Theme 2: Understanding how people learn -- Theme 3: Pedagogical strategies and interventions -- Theme 4: Access, Scale and Sustainability -- Theme 5: Culture and Technology -- Theme 6: Out-of-School Learning, Informal Learning -- Theme 7: Education for Sustainable Development Goals -- Theme 8: Democracy, Technology and Education.
Sommario/riassunto	This is volume two of the proceedings from the International Conference on Technology 4 Education 2024 (T4E 2024), with each section consisting of distinct peer-reviewed research papers making original contributions to research and academia. This volume includes the remaining set of papers from the ‘Original Research Track: Short

Papers' category, along with papers categorized under the 'Experience Report Track: Short Papers.' This novel book pushes the boundaries of research and knowledge in the fields of education, educational technology, and the learning sciences. The main topics of this book are informed by these conference themes: Theme 1: Development of technologies to support education Theme 2: Understanding how people learn Theme 3: Pedagogical strategies and interventions Theme 4: Access, Scale and Sustainability Theme 5: Culture and Technology Theme 6: Out-of-School Learning, Informal Learning Theme 7: Education for Sustainable Development Goals Theme 8: Democracy, Technology and Education This book serves as a valuable reference for researchers, teachers, students, developers, entrepreneurs, and practitioners who are widely interested in understanding how learning and teaching can be enhanced with technology, as well as new roles for technology in educational processes. Readers who wish to read volume one of the proceedings can refer to 'Proceedings of the International Conference on Technology 4 Education 2024: Volume One.