1. Record Nr. UNINA9910407738503321 Autore Vendan S. Arungalai Titolo Welding and Cutting Case Studies with Supervised Machine Learning // by S. Arungalai Vendan, Rajeev Kamal, Abhinav Karan, Liang Gao, Xiaodong Niu, Akhil Garg Singapore:,: Springer Nature Singapore:,: Imprint: Springer., 2020 Pubbl/distr/stampa **ISBN** 981-13-9382-6 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (256 pages) Collana Engineering Applications of Computational Methods, , 2662-3374; ; 1 Disciplina 006.31 Soggetti Manufactures Machine learning Engineering - Data processing Materials - Analysis Machines, Tools, Processes Machine Learning Data Engineering Characterization and Analytical Technique Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Supervised machine learning in magnetically impelled arc butt welding Nota di contenuto (MIAB) -- Supervised machine learning in cold metal transfer (CMT) --Supervised machine learning in friction stir welding (FSW) -- Supervised machine learning in wire cut electric discharge maching (WEDM) --Appendix: coding in python, numpy, panda, scikit-learn used for analysis with emphasis on libraries. Sommario/riassunto This book presents machine learning as a set of pre-requisites, corequisites, and post-requisites, focusing on mathematical concepts and engineering applications in advanced welding and cutting processes. It describes a number of advanced welding and cutting processes and then assesses the parametrical interdependencies of two entities, namely the data analysis and data visualization techniques, which form the core of machine learning. Subsequently, it discusses supervised learning, highlighting Python libraries such as NumPy, Pandas and

Scikit Learn programming. It also includes case studies that employ

machine learning for manufacturing processes in the engineering domain. The book not only provides beginners with an introduction to machine learning for applied sciences, enabling them to address global competitiveness and work on real-time technical challenges, it is also a valuable resource for scholars with domain knowledge.