

Time-series Machine Learning and its Applications in Manufacturing

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Abstract: Since the mid-2000s, the advent of the realization of deep learning (DL) technology followed by the emergence of a host of new AI technology in the fields of computer vision (CV), natural language processing (NLP), recommendation system (RecSys), and reinforcement learning (RL), has made a great impact in virtually all aspects of our lives. They have driven harsh competition in the self-driving car development race, created diverse chat-bots which enabled enterprises to serve and help customers without investing in human resources, written creative novels and composed new music pieces, and increased customer engagement by recommending the right products in e-commerce areas using advanced recommender systems. However, we have not seen much progress or achievements in the industry sectors.

Here we introduce Industrial AI and why this field is still a Blue Ocean with huge potential in both delivering business values to enterprises and making engineers' lives much easier. Among several ML areas, in this seminar, we introduce time-series machine learning (ML) algorithms and techniques and its applications in Manufacturing. Because virtually every data coming out of the manufacturing lines is time-series data, mastering and utilizing these techniques are critical for delivering quality ML solutions and services to the customers. In the latter half part of the seminar, we will do high-level introduction of the actual algorithms used to develop software products in Gauss Labs Inc.