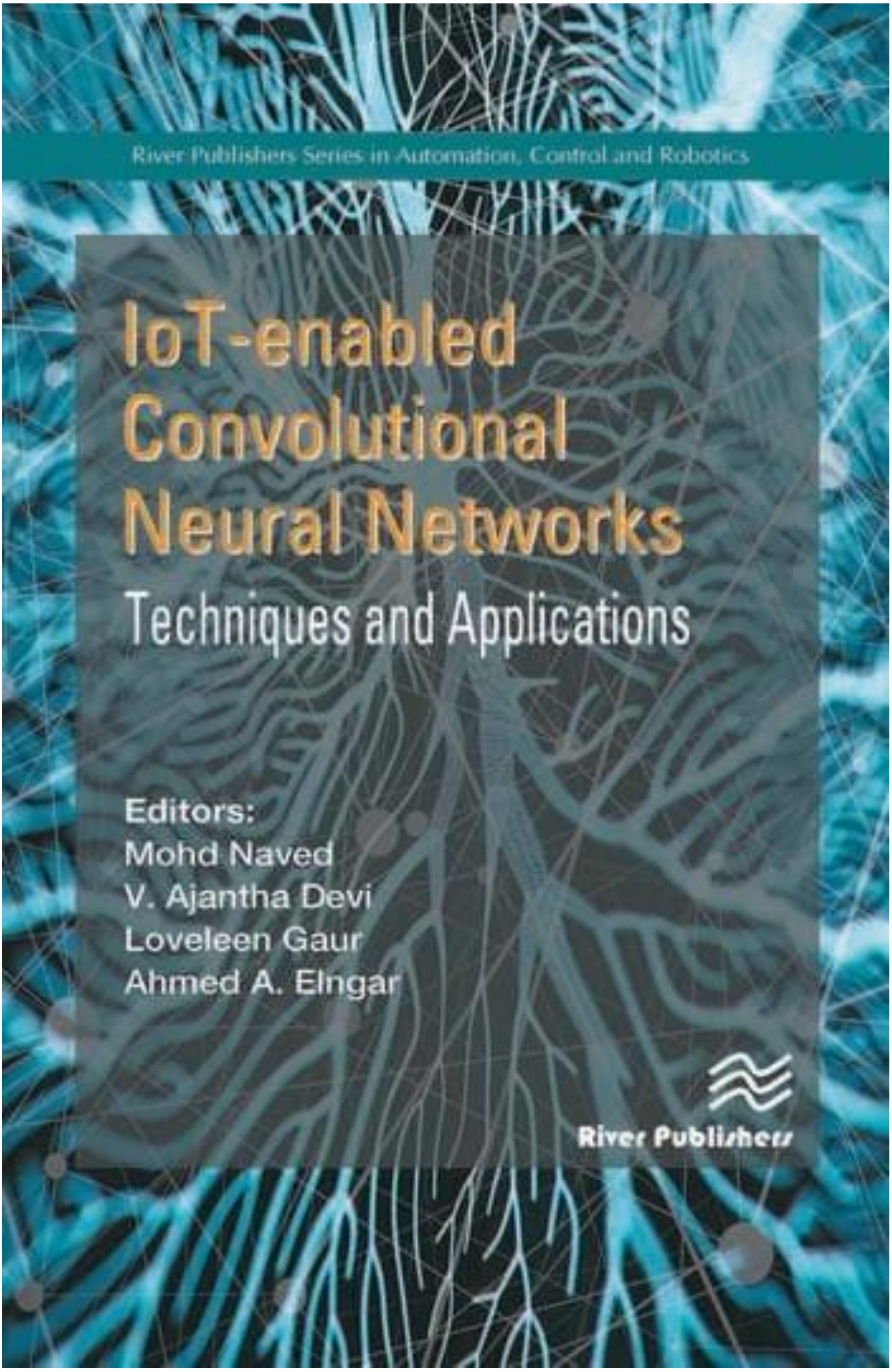
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Abstract

Chapter Abstract:

Convolutional neural networks (CNNs), a type of deep neural network that has become dominant in a variety of computer vision tasks, in recent few years has attracted interest across a variety of domains due to their high efficiency at extracting meaningful information from visual imagery. Convolutional neural networks (CNNs) excel at a wide range of machine learning and deep learning tasks. As sensor-enabled internet of things (IoT) devices pervade every aspect of modern life, it is becoming increasingly critical to run CNN inference, a computationally intensive application, on resource-constrained devices. Through this edited volume we aim to provide a structured presentation of CNN enabled IoT applications in vision, speech, and natural language processing. This book discusses a variety of CNN techniques and applications, including but not limited to, IoT enabled CNN for speech de-noising, a smart app for visually impaired people, disease detection, ECG signal analysis, weather monitoring, texture analysis, etc. Unlike other books on the market, this book covers the tools, techniques, and challenges associated with the implementation of CNN algorithms, computation time, and the complexity associated with reasoning and modelling various types of data. We have included CNN's current research trends and future directions.