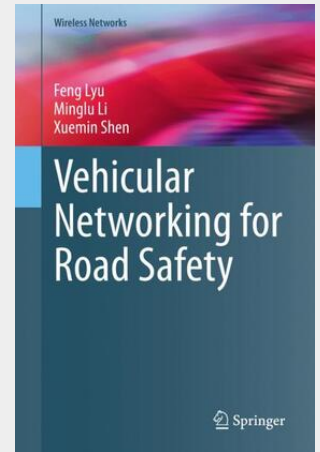


Vehicular Networking for Road Safety

The topics addressed in this book are crucial for both the academic community and industry, since the vehicular network has become an essential building block for intelligent transportation systems. The systematic principle of this book provides valuable guidance on the deployment and implementation of V2X-enabled road-safety applications. In addition, this book carries out structured technologies from the MAC layer to the link and network layer, which can provide a general introduction for interested readers with a comprehensive understanding of applying vehicular networks in enhancing road safety, and offers a systematized view for researchers and practitioners in the field of vehicular networks to help them optimize and improve the desired vehicular communication systems. Road safety has always been the first priority for daily commuters on the road. Vehicular networks can be an effective solution to enhance road safety, via which vehicles can exchange cooperative awareness messages rapidly, contributing to better situation awareness and maneuvering cooperation. However, with the fast-changing network topology, intermittent wireless link, and dynamic traffic density, it is challenging to achieve satisfying network performance. This book introduces the background of vehicular networks, provides a comprehensive overview of networking techniques in supporting road-safety applications, states the technical motivations per the MAC, link, and network layer, and proposes/designs vehicular networking technologies at the corresponding layer respectively to guarantee low-latency and reliable V2X communications for road-safety applications. By extending the proposed networking technologies to support all types of vehicular services, this book also outlines open issues and research directions in future 5G and beyond vehicular networks.

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