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Nota di contenuto	Intro -- Contents -- Introduction -- 1 Reshape the Future of Transportation -- 2 Challenges -- 2.1 New Technologies -- 2.2 Requalification of Non-Auto-Grade Components -- 2.3 New Mission Profiles for Existing Auto-Grade Components -- 3 Overview of Chapters -- 4 Summary -- References -- Basics and Applications of AI in ADAS and Autonomous Vehicles -- 1 Introduction -- 1.1 Advanced Driver-Assistance Systems (ADASs) -- 1.2 Autonomous Vehicles (AVs) and Automation Levels -- 1.3 Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL) -- 2 Applications of AI in ADAS -- 2.1 Supervised Learning -- 2.2 Unsupervised Learning -- 2.3 Reinforcement Learning -- 2.4 Deep Learning (DL) -- 3 Safety in ADAS and AV Based on AI -- 3.1 Safety Standards and Methodologies -- 3.2 AI Safety Challenges: Edge Cases and Heavy Tail Distribution -- 3.3 Safety in AI System Design, Validation, Testing and Implementation -- 4 Datasets, Simulators, and Infrastructures for AI Systems -- 4.1 Publicly Available Training and Testing Datasets -- 4.2 Open-source Simulators -- 4.3 Infrastructures for AI Systems -- 5 Summary -- References -- Computing Technology in Autonomous Vehicle -- 1 Introduction -- 2 Compute and ADAS Technology -- 2.1 Levels of Autonomous Driving -- 2.2 Platform for Autonomous Driving System -- 2.3 Perception and Localization -- 2.4 Prediction, Planning,

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