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Sommario/riassunto	Long description: In this thesis, we investigate the applicability of the shearlet transform for the task of pedestrian detection. Due to the usage of in several emerging technologies, such as automated or autonomous vehicles, pedestrian detection has evolved into a key topic of research in the last decade. In this time period, a wealth of different algorithms has been developed. According to the current results on pedestrian detection benchmarks, the algorithms can be divided into two categories. First, application of hand-crafted image features and of a classifier trained on these features. Second, methods using Convolutional Neural Networks in which features are learned during the training phase. It is studied how both of these types of procedures can be further improved by the incorporation of shearlets, a framework for image analysis which has a comprehensive theoretical basis. To this end, we adapt the shearlet framework according to the requirements of the practical application of pedestrian detection algorithms. One main application area of pedestrian detection is located in the automotive domain. In this field, algorithms have to be runable on embedded devices. Therefore, we study the embedded realization of a pedestrian detection algorithm based on the shearlet transform.