CLAIMS:

1. A riding assistance system for a motorcycle comprising:

a processing resource;

a memory configured to store data usable by the processing resource; and

at least one wide-angle forward-looking camera configured to be installed on the motorcycle in a manner enabling it to capture images of a scene including at least a right side and a left side in front of the motorcycle;

wherein the processing resource is configured to:

obtain a series of at least two images consecutively acquired by the camera, wherein a time passing between capturing of each consecutive image pair of the images is lower than a first threshold;

analyze a region of interest within at least a pair of consecutive images of the series to identify features having respective feature locations within the at least pair of consecutive images;

match each of the features and its respective feature location within each image of the at least pair of consecutive images of the series to determine vectors of movement of each of the respective features between the at least pair of consecutive images of the series, the vectors of movement representing the movement of the features over time; and

generate a warning notification upon a criterion being met, wherein the criterion is associated with the vectors of movement of respective features or with enhanced vectors of movement of respective features.

2. The riding assistance system of claim 1, wherein the criterion is that a number of the vectors of movement of respective features being in a collision course with a direction of the motorcycle exceeds another threshold.

3. The riding assistance system of claim 1, wherein the criterion is that an average vector being a vector representing the average of the vectors of movements is in a collision course with a direction of the motorcycle.

~~4. The riding assistance system of claim 1, wherein the feature locations are matched using one or more of: L^2 function, or nearest neighbor algorithm.~~

~~5.~~4. The riding assistance system of claim 1, wherein the processing resource is further configured to estimate a likelihood of presence of a vehicle associated with at least some of the features within a given image of the at least pair of consecutive images of the series; and

wherein the warning notification is generated only if the likelihood is above a third threshold.

~~6. The riding assistance system of claim 5, wherein the estimate is performed using a convolutional neural network.~~

~~7.~~5. The riding assistance system of claim 1, wherein the processing resource is further configured to:

analyze the region of interest within at least one other pair of consecutive images of the series to identify the features having respective feature locations, wherein at least one of the images of the pair is one of the images of the other pair;

match the feature locations of the features within the pair and the other pair of consecutive images of the series to determine the enhanced vectors of movement of each of the respective features between the consecutive images of the pair and the other pair, wherein the enhanced vectors of movement are associated with a longest distance between the respective feature's locations within the images of the pair and the other pair.

~~8.~~6. The riding assistance system of claim 1, wherein the processing resource is further configured to:

estimate a trajectory of each of the features;

identify an intersection point of the estimated trajectories;

wherein the criterion is met when the intersection is within a pre-defined area within a given image of the series.

~~9.~~7. The riding assistance system of claim 1, wherein the processing resource is further configured to determine a mean value of optical flow in a vertical direction towards the motorcycle within at least one other region of interest within the pair of consecutive images of the series, wherein the criterion is met when the mean value of optical flow exceeds an allowed mean optical flow threshold.

~~10. The riding assistance system of claim 1, wherein the warning notification is provided to the rider of the motorcycle.~~

~~11.~~ 8. The riding assistance system of claim 1, further comprising a lighting system comprising a plurality of lights visible to the rider of the motorcycle when facing forward of the motorcycle, and wherein the warning notification is a provided by turning on one or more selected lights of the lights.

~~12. The riding assistance system of claim 11, wherein the selected lights are selected in accordance with a threat type of the threat out of a plurality of threat types, wherein at least two of the threat types are associated with a distinct combination of selected lights.~~

~~13. The riding assistance system of claim 12, wherein the warning notification is provided by turning on the selected lights in a pre-determined pattern and/or color.~~

~~14. The riding assistance system of claim 13, wherein the pre-determined pattern is a blinking pattern of the selected lights.~~

~~15. The riding assistance system of claim 11, wherein the lighting system is comprised within mirrors of the motorcycle.~~

~~16. The riding assistance system of claim 11, wherein the lighting system is connected to the mirrors of the motorcycle and external to the mirrors of the motorcycle.~~

~~17. The riding assistance system of claim 1, wherein the warning notification is a sound notification provided to the rider of the motorcycle via one or more speakers.~~

~~18. The riding assistance system of claim 17, wherein the sound notification is a voice notification.~~

~~19. The riding assistance system of claim 11, wherein the warning notification is vibration provided to the rider of the motorcycle via one or more vibrating elements causing vibration felt by the rider of the motorcycle.~~

~~20.~~9. The riding assistance system of claim 1, wherein the wide-angle forward-looking camera is a wide-angle camera, covering an angle of more than 90°.

~~21.~~10. The riding assistance system of claim 1, wherein the obtain is performed during movement of the motorcycle and in real-time.

~~22. The riding assistance system of claim 1, wherein the notification is provided by projection onto a visor of a helmet of the rider of the motorcycle.~~

~~23. The riding assistance system of claim 1, wherein the images cover an angle of at least 60° of the scene.~~

~~24.~~11. A riding assistance method for a motorcycle, the method comprising:

obtaining, by a processing resource, a series of at least two images consecutively acquired by at least one wide-angle forward-looking camera configured to be installed on the motorcycle in a manner enabling it to capture images of a scene including at least a right side and a left side in front of the motorcycle, wherein a time passing between capturing of each consecutive image pair of the images is lower than a first threshold;

analyzing a region of interest within at least a pair of consecutive images of the series to identify features having respective feature locations within the at least pair of consecutive images;

matching each of the features and its respective feature location within each image of the at least pair of consecutive images of the series to determine vectors of movement of each of the respective features between the at least pair of consecutive images of the series, the vectors of movement representing the movement of the features over time; and

generating a warning notification upon a criterion being met, wherein the criterion is associated with the vectors of movement of respective features or with enhanced vectors of movement of respective features.

~~25.~~12. The riding assistance method of claim 11~~24~~, wherein the criterion is that a number of the vectors of movement of respective features being in a collision course with a direction of the motorcycle exceeds another threshold.

~~26.~~13. The riding assistance method of claim 11~~24~~, wherein the criterion is that an average vector being a vector representing the average of the vectors of movements is in a collision course with a direction of the motorcycle.

~~27. The riding assistance method of claim 24, wherein the feature locations are matched using one or more of: L^2 function, or nearest neighbor algorithm.~~

~~28.~~14. The riding assistance method of claim 11~~24~~, further comprising estimating a likelihood of presence of a vehicle associated with at least some of the features within a given image of the at least pair of consecutive images of the series; and wherein the warning notification is generated only if the likelihood is above a third threshold.

~~29. The riding assistance method of claim 28, wherein the estimating is performed using a convolutional neural network.~~

~~30.~~15. The riding assistance method of claim 11~~24~~, further comprising:

analyzing the region of interest within at least one other pair of consecutive images of the series to identify the features having respective feature locations, wherein at least one of the images of the pair is one of the images of the other pair; and

matching the feature locations of the features within the pair and the other pair of consecutive images of the series to determine the enhanced vectors of movement of each of the respective features between the consecutive images of the pair and the other pair, wherein the enhanced vectors of movement are associated with a longest distance between the respective feature's locations within the images of the pair and the other pair.

~~31.~~16. The riding assistance method of claim 11~~24~~, further comprising:

estimating a trajectory of each of the features;

identifying an intersection point of the estimated trajectories;

wherein the criterion is met when the intersection is within a pre-defined area within a given image of the series.

~~32.~~ 17. The riding assistance method of claim 11~~24~~, further comprising determining a mean value of optical flow in a vertical direction towards the motorcycle within at least one other region of interest within the pair of consecutive images of the series, wherein the criterion is met when the mean value of optical flow exceeds an allowed mean optical flow threshold.

~~33. The riding assistance method of claim 24, wherein the warning notification is provided to the rider of the motorcycle.~~

~~34.~~ 18. The riding assistance method of claim 11~~24~~, wherein the warning notification is a provided by turning on one or more selected lights of a plurality of lights comprised in a lighting system, the lights being visible to the rider of the motorcycle when facing forward of the motorcycle.

~~35. The riding assistance method of claim 34, wherein the selected lights are selected in accordance with a threat type of the threat out of a plurality of threat types, wherein at least two of the threat types are associated with a distinct combination of selected lights.~~

~~36. The riding assistance method of claim 35, wherein the warning notification is provided by turning on the selected lights in a pre-determined pattern and/or color.~~

~~37. The riding assistance method of claim 36, wherein the pre-determined pattern is a blinking pattern of the selected lights.~~

~~38. The riding assistance method of claim 34, wherein the lighting system is comprised within mirrors of the motorcycle.~~

~~39. The riding assistance method of claim 34, wherein the lighting system is connected to the mirrors of the motorcycle and external to the mirrors of the motorcycle.~~

~~40. The riding assistance method of claim 24, wherein the warning notification is a sound notification provided to the rider of the motorcycle via one or more speakers.~~

~~41. The riding assistance method of claim 40, wherein the sound notification is a voice notification.~~

~~42. The riding assistance method of claim 34, wherein the warning notification is vibration provided to the rider of the motorcycle via one or more vibrating elements causing vibration felt by the rider of the motorcycle.~~

~~43. The riding assistance method of claim 24, wherein the wide angle forward-looking camera is a wide-angle camera, covering an angle of more than 90°.~~

~~44.~~ 19. The riding assistance method of claim 11~~2~~4, wherein the obtaining is performed during movement of the motorcycle and in real-time.

~~45. The riding assistance method of claim 24, wherein the notification is provided by projection onto a visor of a helmet of the rider of the motorcycle.~~

~~46. The riding assistance method of claim 24, wherein the images cover an angle of at least 60° of the scene.~~

~~47.~~ 20. A non-transitory computer readable storage medium having computer readable program code embodied therewith, the computer readable program code, executable by a processing resource to perform a method comprising:

obtaining, by the processing resource, a series of at least two images consecutively acquired by at least one wide-angle forward-looking camera configured to be installed on the motorcycle in a manner enabling it to capture images of a scene including at least a right side and a left side in front of the motorcycle, wherein a time passing between capturing of each consecutive image pair of the images is lower than a first threshold;

analyzing a region of interest within at least a pair of consecutive images of the series to identify features having respective feature locations within the at least pair of consecutive images;

matching each of the features and its respective feature location within each image of the at least pair of consecutive images of the series to determine vectors of movement of each of the respective features between the at least pair of consecutive images of the series, the vectors of movement representing the movement of the features over time; and

generating a warning notification upon a criterion being met, wherein the criterion is associated with the vectors of movement of respective features or with enhanced vectors of movement of respective features.