CLAIMS

1. A computer system for generating driving-related instructions, the computer system comprising:

a processor; and

a memory configured to store instructions, wherein the instructions, when executed by the processor, cause the processor to:

obtain driving contextual data associated with a driver,

wherein the driving contextual data are representative of driver-related parameters influencing a driving performance of the driver;

determine a personalized risk profile associated with the driver based on the driving contextual data,

wherein the personalized risk profile comprises a risk score associated with a driving-related risk for the driver and risk factors influencing the risk score;

determine a risk scenario associated with the driver based on the personalized risk profile,

wherein the risk scenario is representative of driving-related conditions causing an increased driving-related risk for the driver; and

determine the driving-related instructions associated with the driver based on the personalized risk profile and on the risk scenario,

wherein the instructions are further configured to:

assign the driver to a corresponding driver group based on one or more driver characteristics represented by the driving contextual data associated with the driver;

determine if the driver group to which the driver is assigned is an insufficient driver group having an insufficient sample size of data for a risk model;

generate an interpolated risk model for the insufficient driver group by an interpolation based on a plurality of risk models associated with a plurality of sufficient driver groups that are adjacent to the insufficient driver group in terms of the driver characteristics; and

determine the risk score associated with the driver further based on the interpolated risk model.

2. The computer system according to claim 1,

wherein the driving-related risk comprises one or more events; and

wherein the instructions are further configured to cause the processor to determine the personalized risk profile associated with the driver by evaluating the driver-related parameters with respect to a corresponding criterion for each of the one or more events.

3. The computer system according to claim 1 or 2,

wherein the instructions are further configured to cause the processor to cause a transmission of the generated driving-related instructions to a user device communicatively coupled with the computer system.

4. The computer system according to any one of claims 1 to 3,

wherein the driving-related instructions comprise vehicle instructions addressed to a vehicle driven by the driver and configured to prompt the vehicle to implement an autonomous functionality to reduce the driving-related risk associated with the driver.

5. The computer system according to any one of claims 1 to 4,

wherein the driver is a driver of a commercial vehicle part of a fleet of commercial vehicles;

wherein the driving-related instructions comprise operator instructions addressed to an operator of the commercial fleet, and

wherein the operator instructions are representative of a rostering for the commercial fleet comprising the driver.

6. The computer system according to any one of claims 1 to 5,

wherein the driving-related instructions comprise or are representative of one or more simulation parameters to define a simulation environment for training the driver.

7. The computer system according to claim 1,

wherein the instructions are further configured to cause the processor to determine the personalized risk profile for the driver according to the driver group to which the driver is assigned.

8. The computer system according to claim 7,

wherein the driving-related risk comprises one or more events; and

wherein the instructions are further configured to cause the processor to determine the personalized risk profile associated with the driver by evaluating the driver-related parameters with respect to a corresponding criterion for each of the one or more events, and

wherein the criteria for the events are specific to the driver group to which the driver is assigned.

9. The computer system according to any one of claims 1 to 8,

wherein the instructions are further configured to cause the processor to:

determine the risk score during a driving session of the driver as a real-time risk score;

compare the real-time risk score with a predicted value of the risk score for the driving session;

determine real-time driving-related instructions based on a result of the comparison;

and cause a transmission of the real-time driving-related instructions to a user-device of the driver during the driving session.

10. A method for generating driving-related instructions, the method comprising:

obtaining driving contextual data associated with a driver,

wherein the driving contextual data are representative of driver-related parameters influencing a driving performance of the driver;

determining a personalized risk profile associated with the driver based on the driving contextual data,

wherein the personalized risk profile comprises a risk score associated with a driving-related risk for the driver and risk factors influencing the risk score;

determining a risk scenario associated with the driver based on the personalized risk profile,

wherein the risk scenario is representative of driving-related conditions causing an increased driving-related risk for the driver; and

determining the driving-related instructions associated with the driver based on the personalized risk profile and on the risk scenario,

wherein the method further comprises:

assigning the driver to a corresponding driver group based on one or more driver characteristics represented by the driving contextual data associated with the driver;

determining if the driver group to which the driver is assigned is an insufficient driver group having an insufficient sample size of data for a risk model;

generating an interpolated risk model for the insufficient driver group by an interpolation based on a plurality of risk models associated with a plurality of sufficient driver groups that are adjacent to the insufficient driver group in terms of the driver characteristics; and

determining the risk score associated with the driver further based on the interpolated risk model.

11. The method according to claim 10,

wherein the driving-related risk comprises one or more events; and

wherein the method further comprises determining the personalized risk profile associated with the driver by evaluating the driver-related parameters with respect to a corresponding criterion for each of the one or more events.

12. The method according to claim 10 or 11,

further comprising: transmitting the generated driving-related instructions to a user device communicatively coupled with the computer system.

13. The method according to any one of claims 10 to 12,

wherein the driving-related instructions comprise vehicle instructions addressed to a vehicle driven by the driver and configured to prompt the vehicle to implement an autonomous functionality to reduce the driving-related risk associated with the driver.

14. The method according to any one of claims 10 to 13,

wherein the driver is a driver of a commercial vehicle part of a fleet of commercial vehicles,

wherein the driving-related instructions comprise operator instructions addressed to an operator of the commercial fleet, and

wherein the operator instructions are representative of a rostering for the commercial fleet comprising the driver.

15. The method according to any one of claims 10 to 14, further comprising:

using the driving-related instructions to define one or more simulation parameters of a simulation environment for training the driver.

16. The method according to claim 10, further comprising:

determining the personalized risk profile for the driver according to the driver group to which the driver is assigned.

17. The method according to claim 16,

wherein the driving-related risk comprises one or more events; and

wherein the method further comprises determining the personalized risk profile associated with the driver by evaluating the driver-related parameters with respect to a corresponding criterion for each of the one or more events, and

wherein the criteria for the events are specific to the driver group to which the driver is assigned.

18. The method according to any one of claims 10 to 17, further comprising:

determining the risk score during a driving session of the driver as a real-time risk score;

comparing the real-time risk score with a predicted value of the risk score for the driving session;

determining real-time driving-related instructions based on a result of the comparison;

and transmitting the real-time driving-related instructions to a user device of the driver during the driving session.