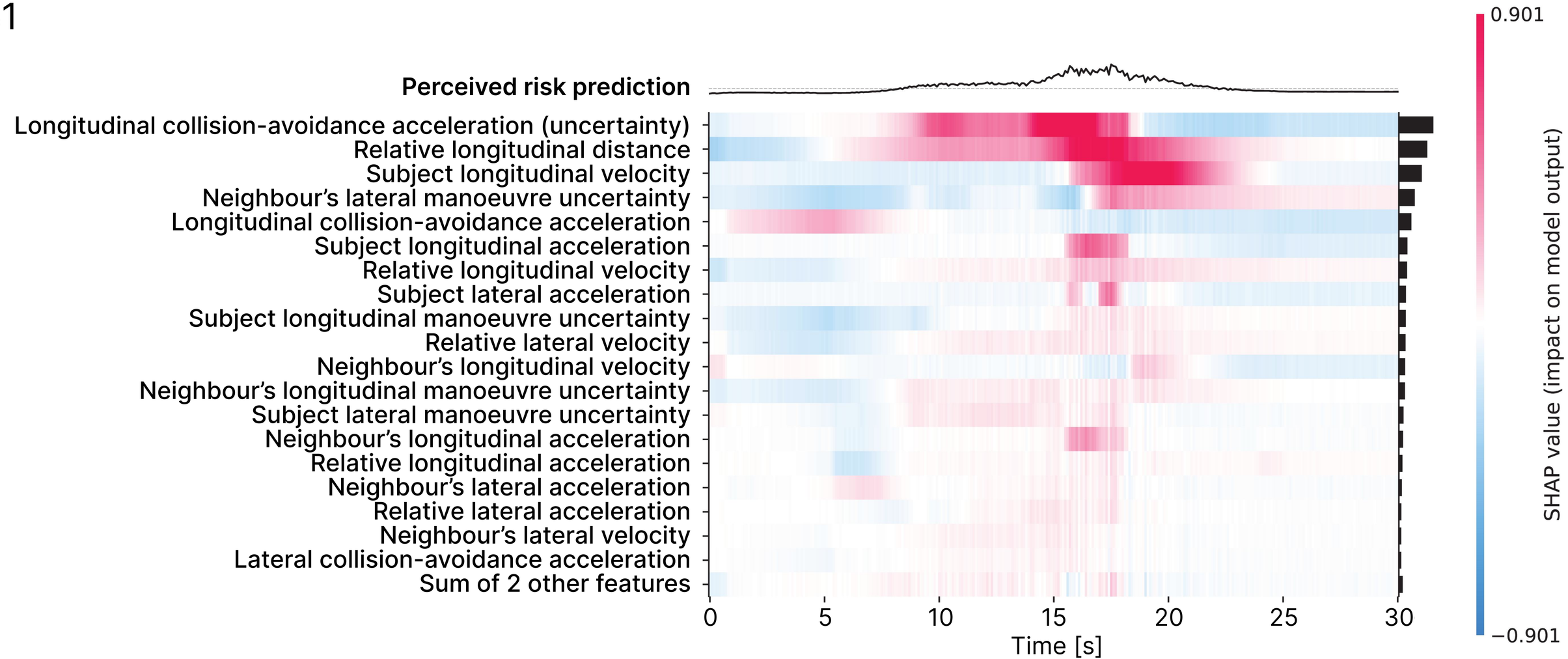
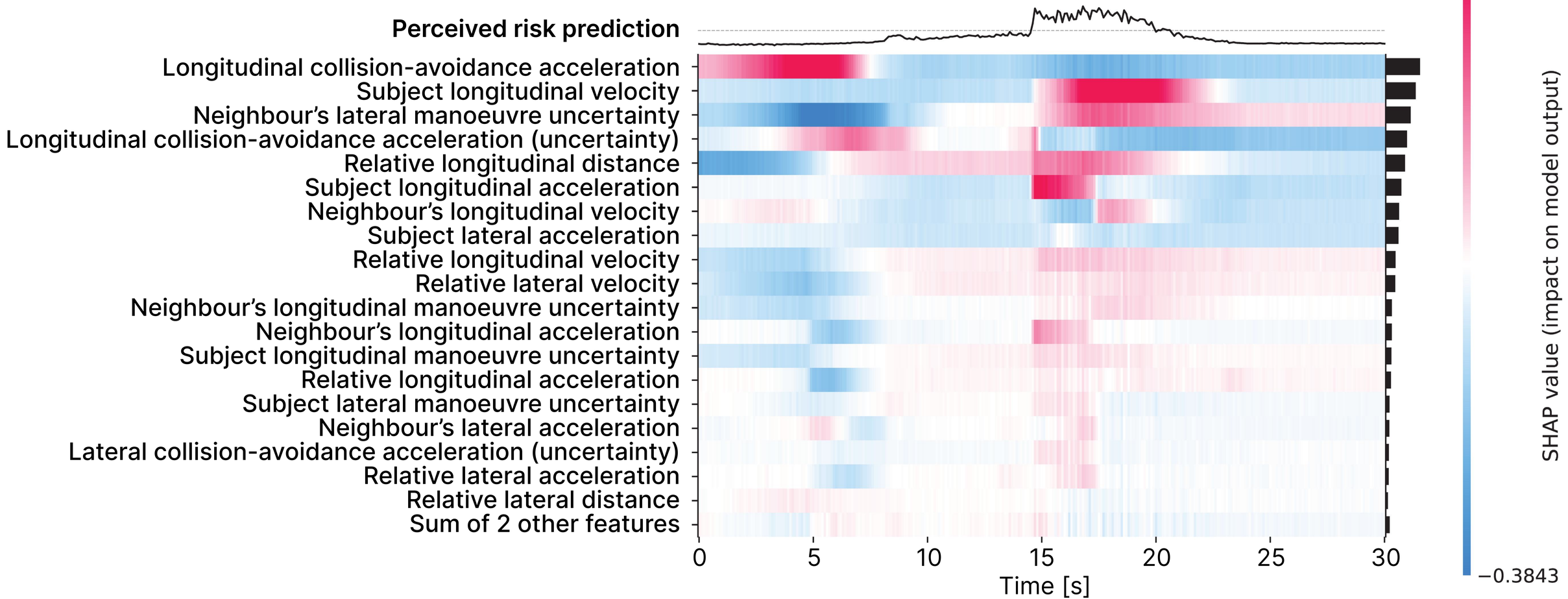
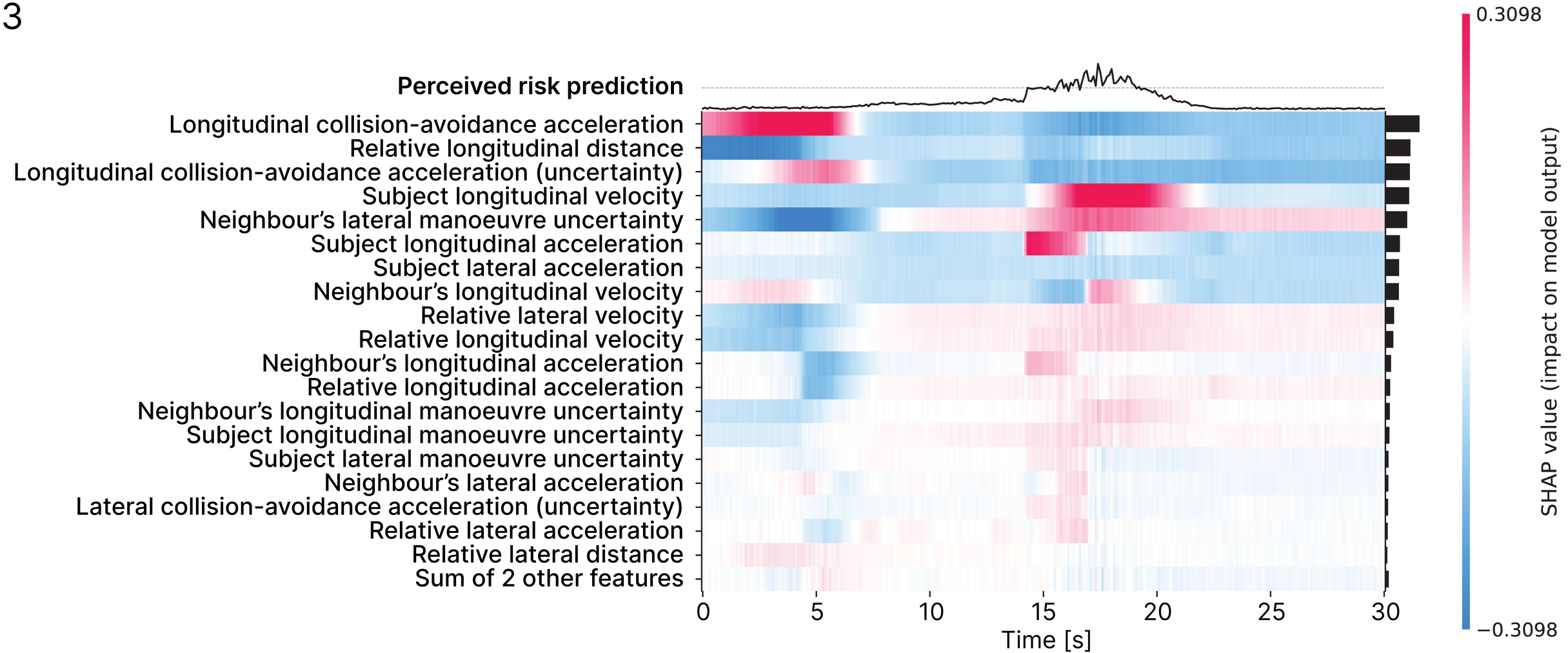
MB1


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Relative longitudinal velocity
Subject lateral acceleration
Subject longitudinal manoeuvre uncertainty
Relative lateral velocity
Neighbour's longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.901
−0.901
SHAP value (impact on model output)

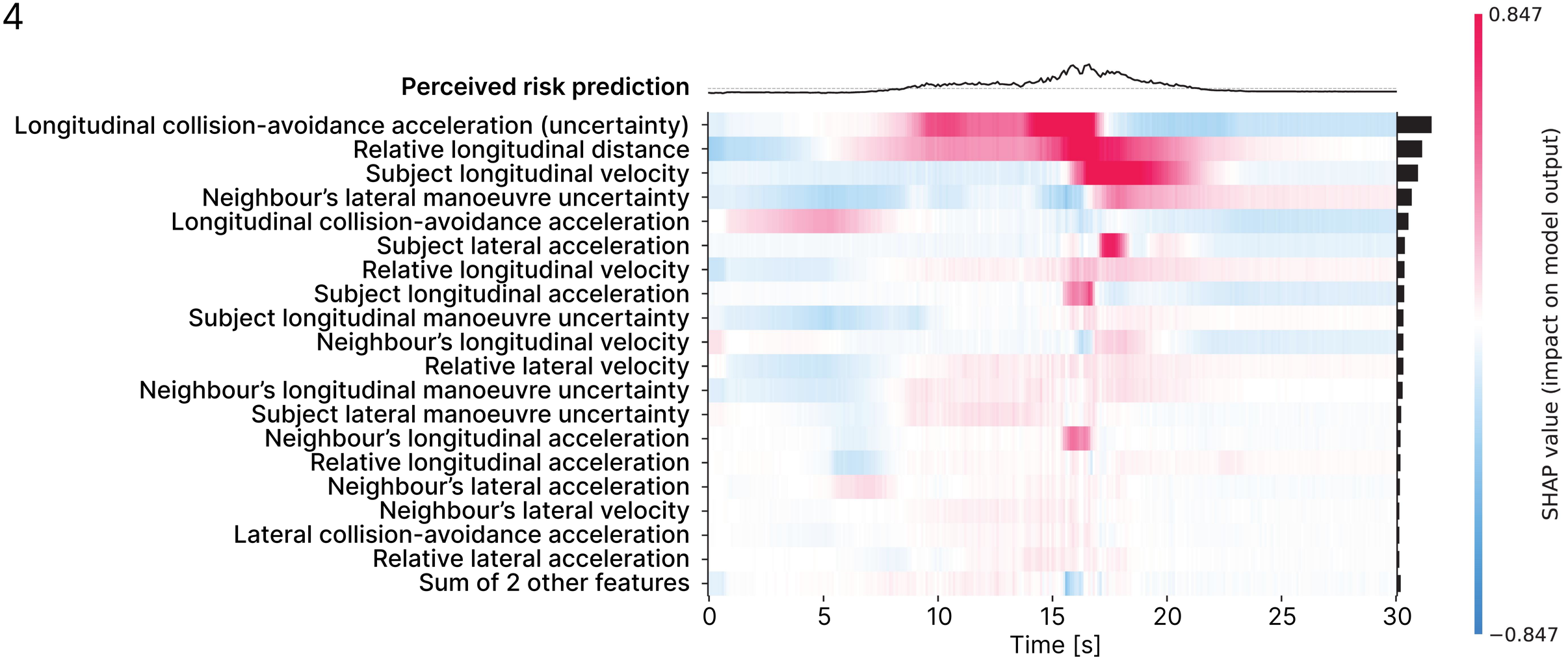
MB2


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Subject lateral acceleration
Relative longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.3843
−0.3843
SHAP value (impact on model output)

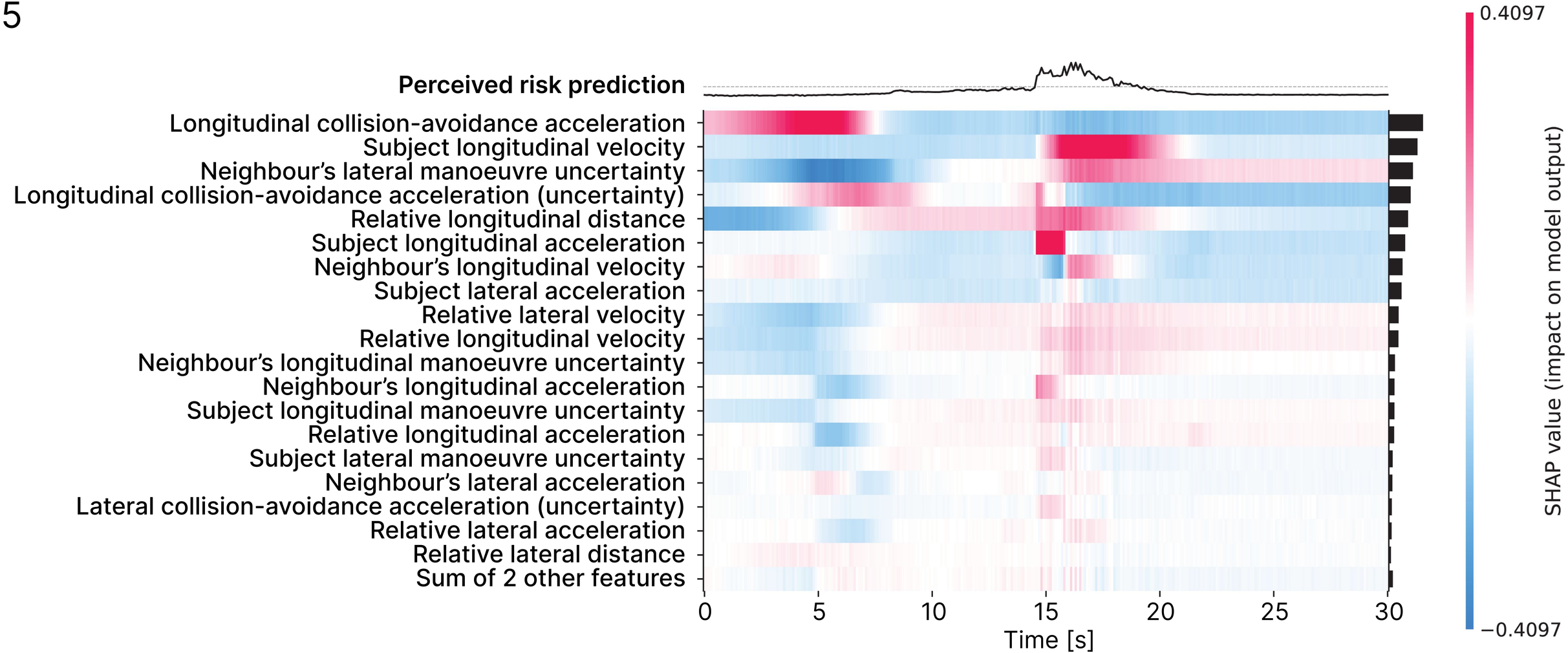
MB3


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Subject lateral acceleration
Neighbour's longitudinal velocity
Relative lateral velocity
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.3098
−0.3098
SHAP value (impact on model output)

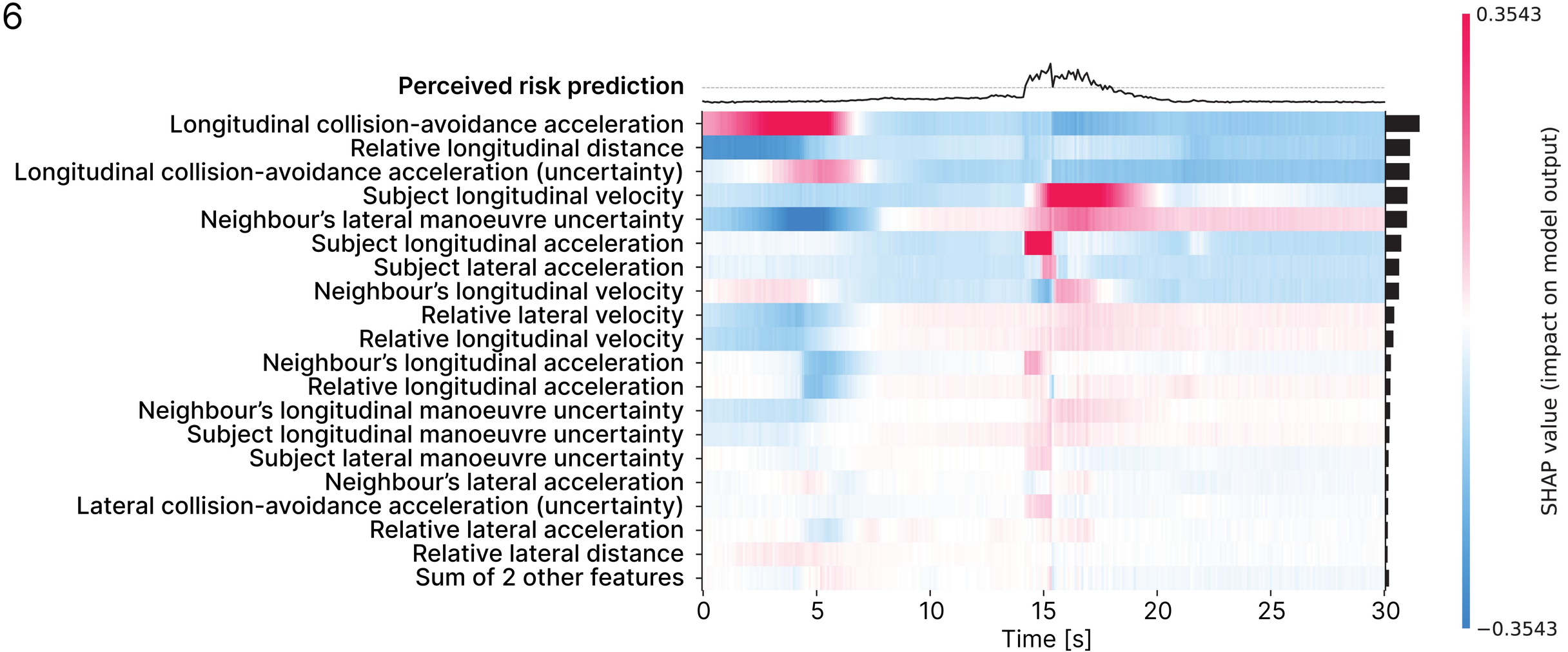
MB4


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Subject lateral acceleration
Relative longitudinal velocity
Subject longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's lateral acceleration
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.847
−0.847
SHAP value (impact on model output)

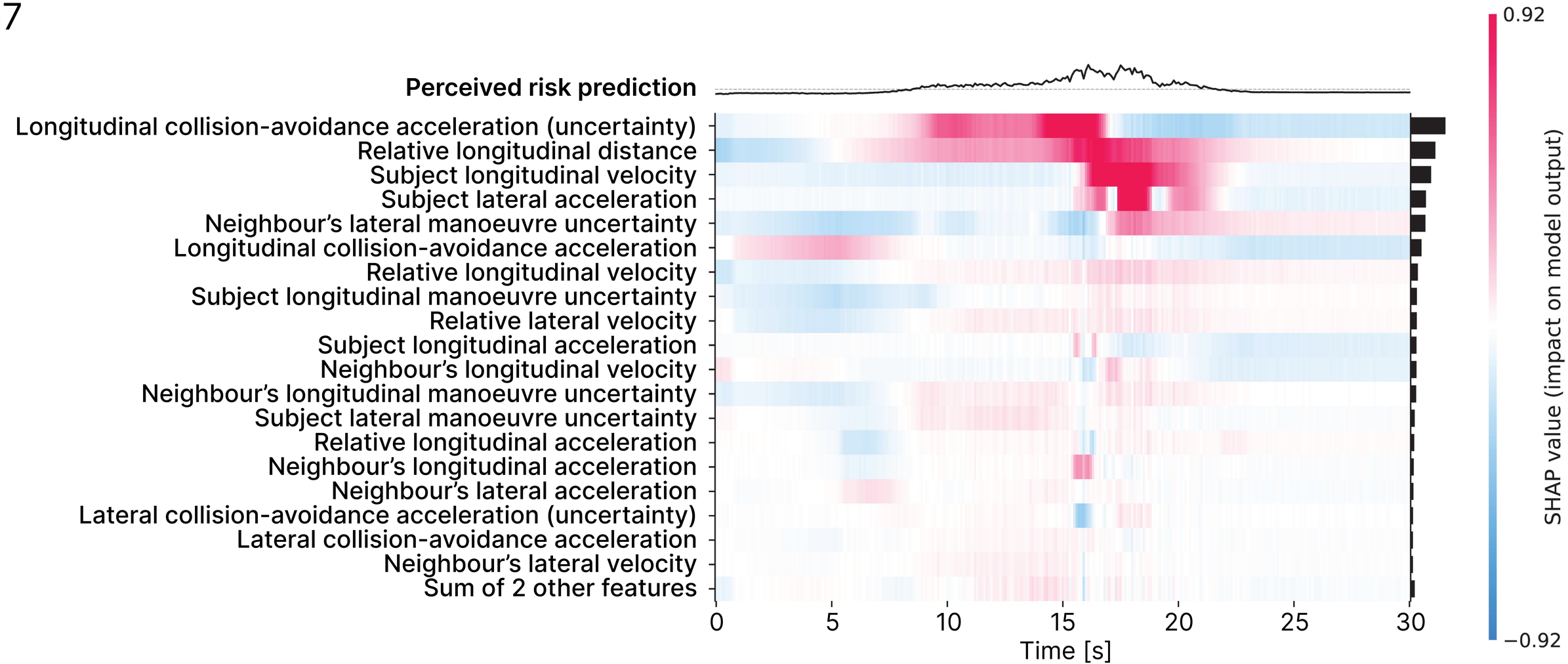
MB5


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Subject lateral acceleration
Relative lateral velocity
Relative longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4097
−0.4097
SHAP value (impact on model output)

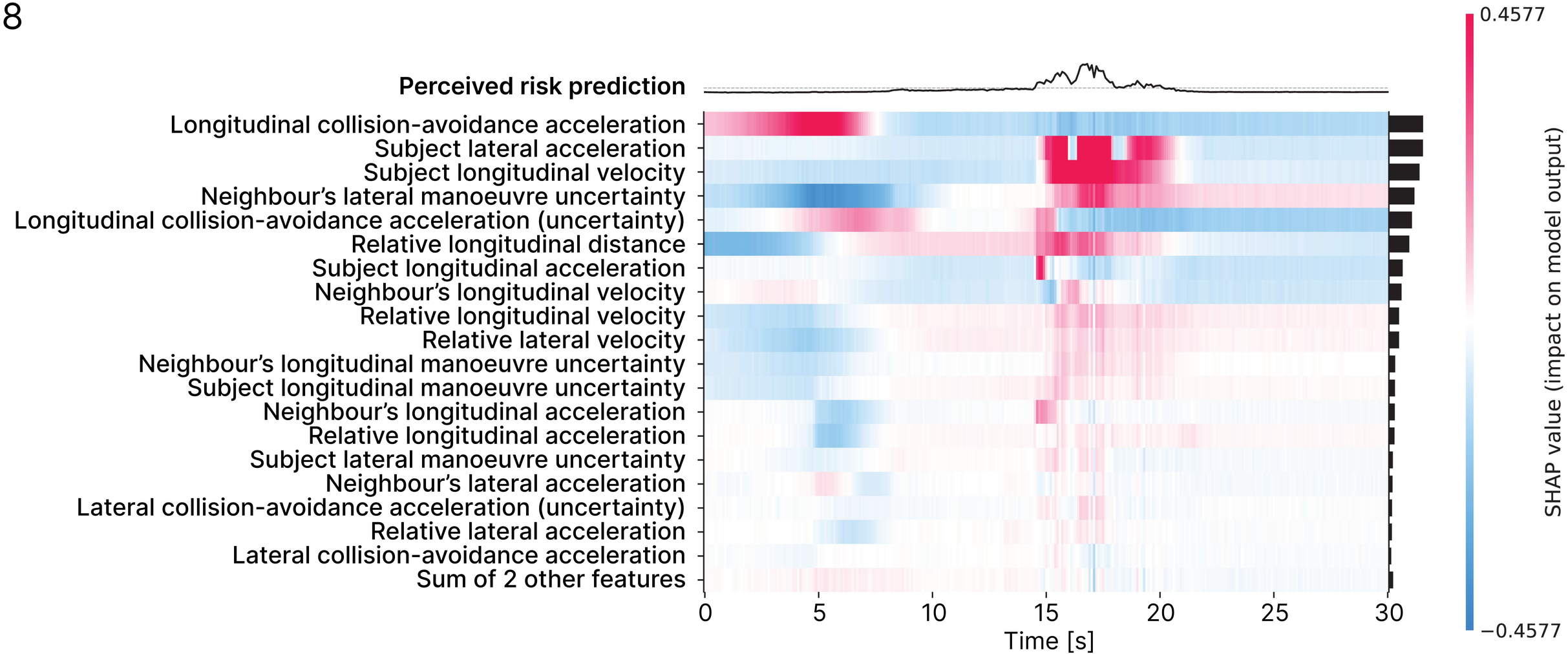
MB6


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Subject lateral acceleration
Neighbour's longitudinal velocity
Relative lateral velocity
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.3543
−0.3543
SHAP value (impact on model output)

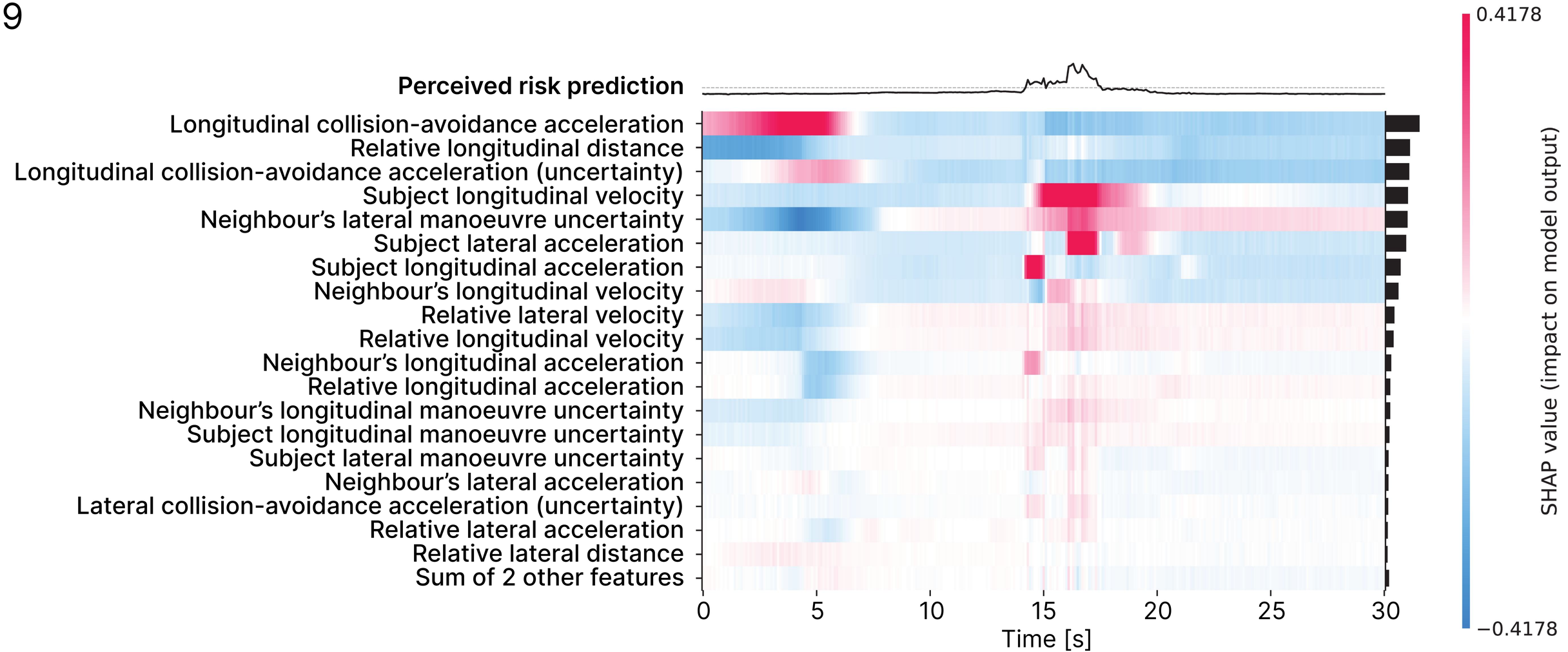
MB7


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Subject lateral acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Relative longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Relative lateral velocity
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's longitudinal acceleration
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.92
−0.92
SHAP value (impact on model output)

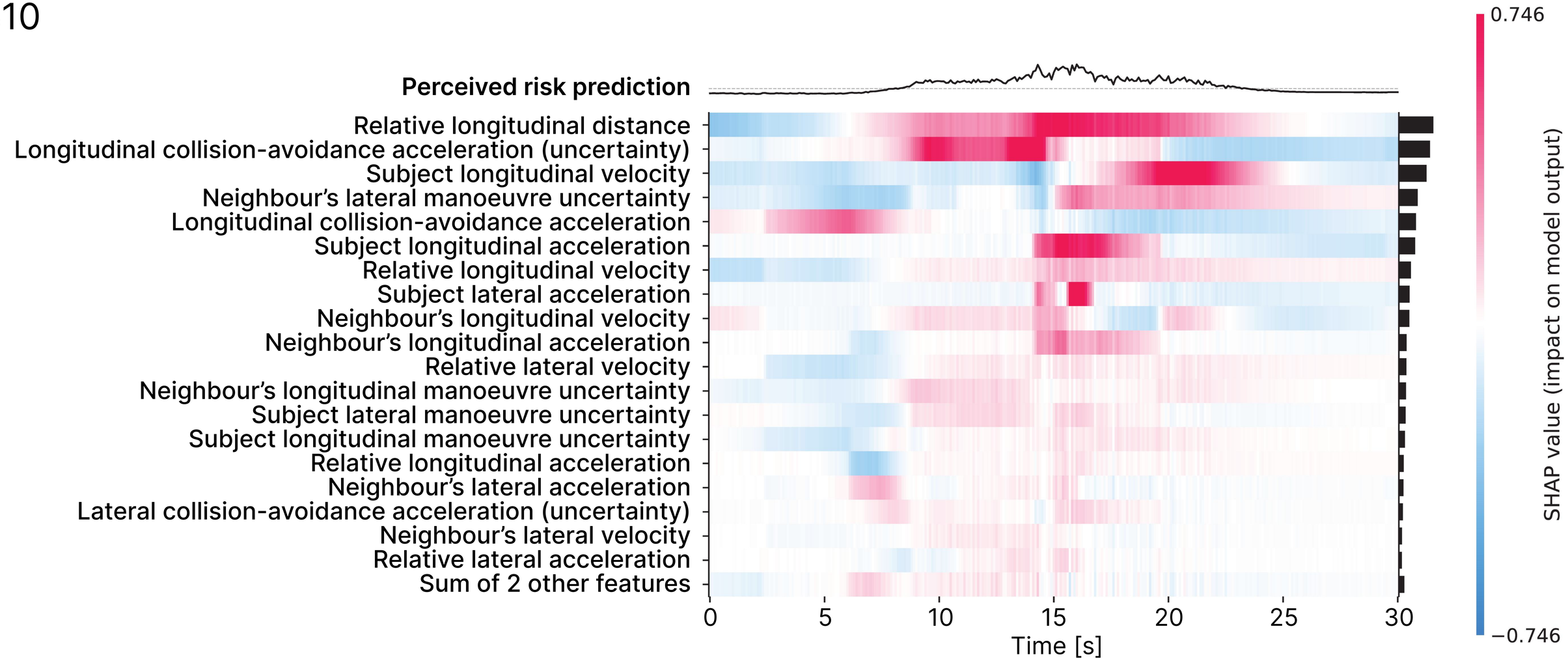
MB8


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject lateral acceleration
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Lateral collision-avoidance acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4577
−0.4577
SHAP value (impact on model output)

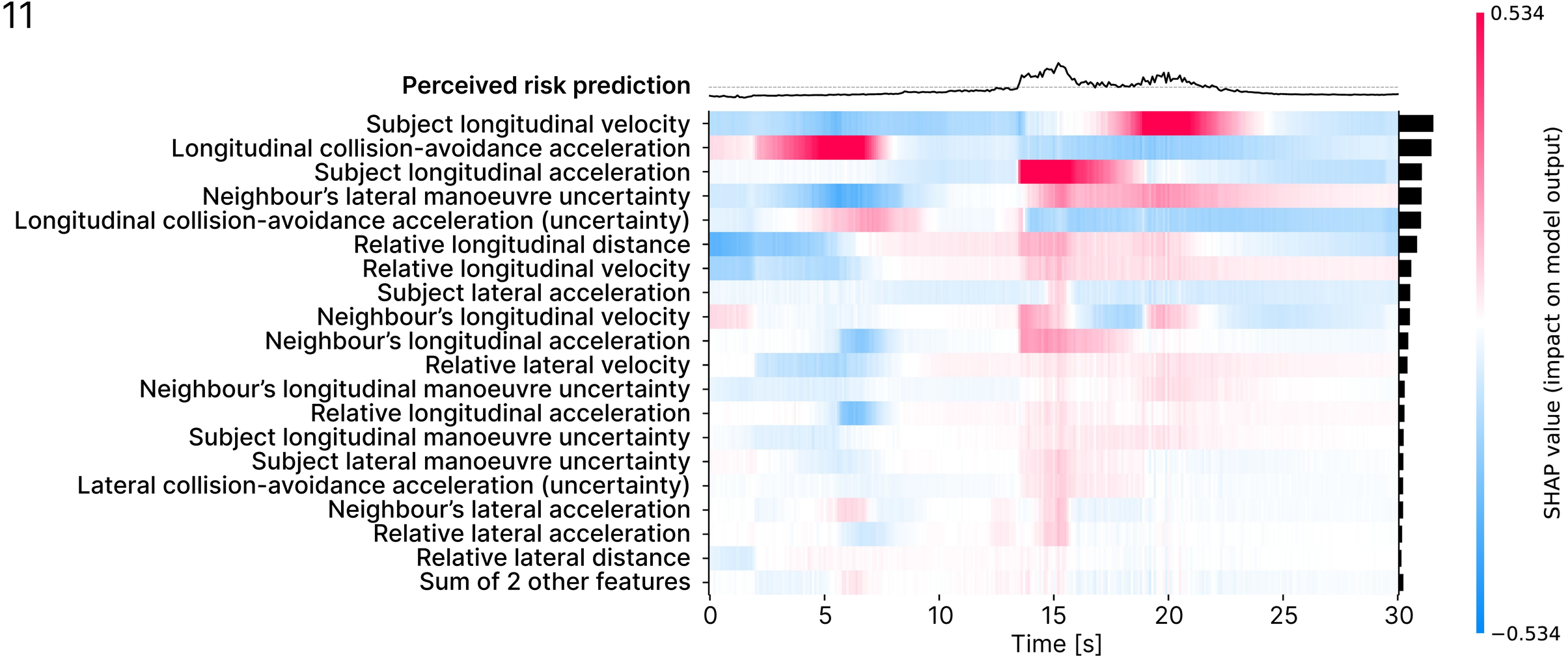
MB9


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject lateral acceleration
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Relative lateral velocity
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4178
−0.4178
SHAP value (impact on model output)

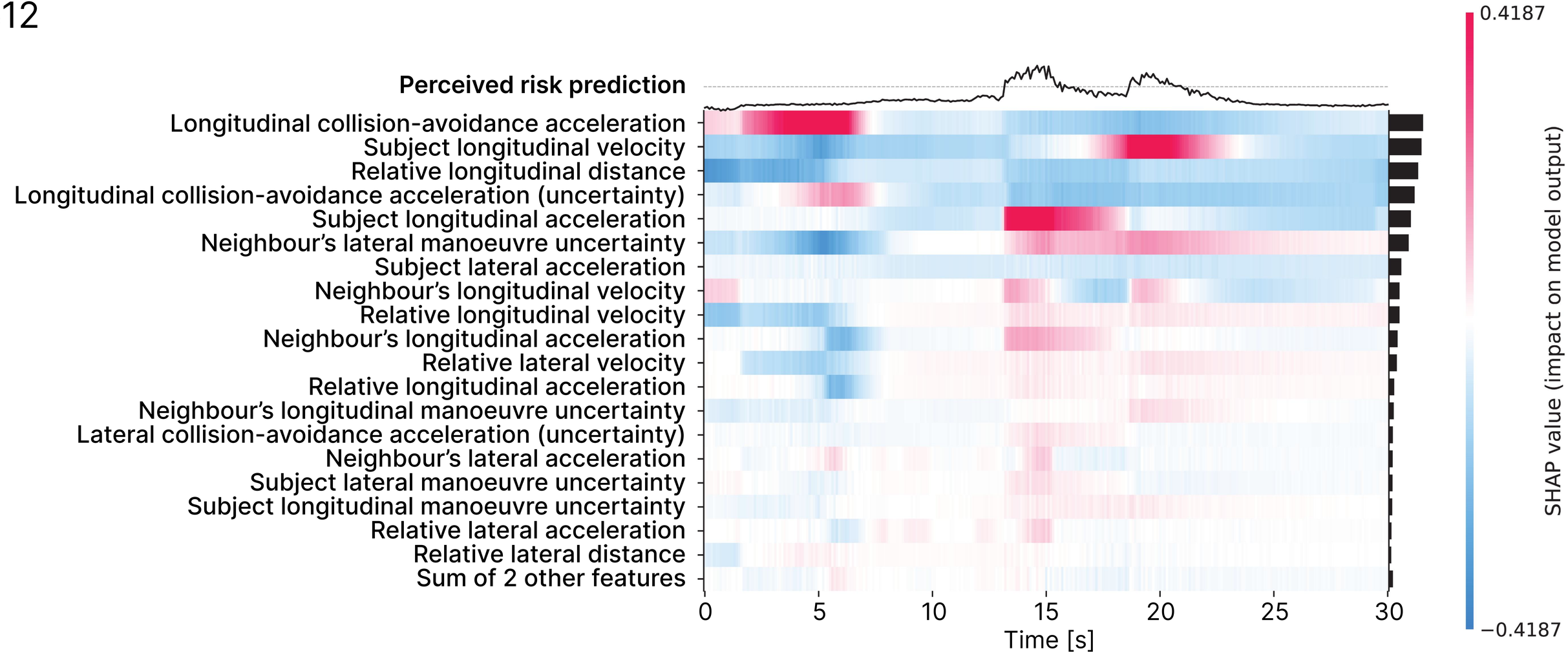
MB10


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral velocity
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.746
−0.746
SHAP value (impact on model output)

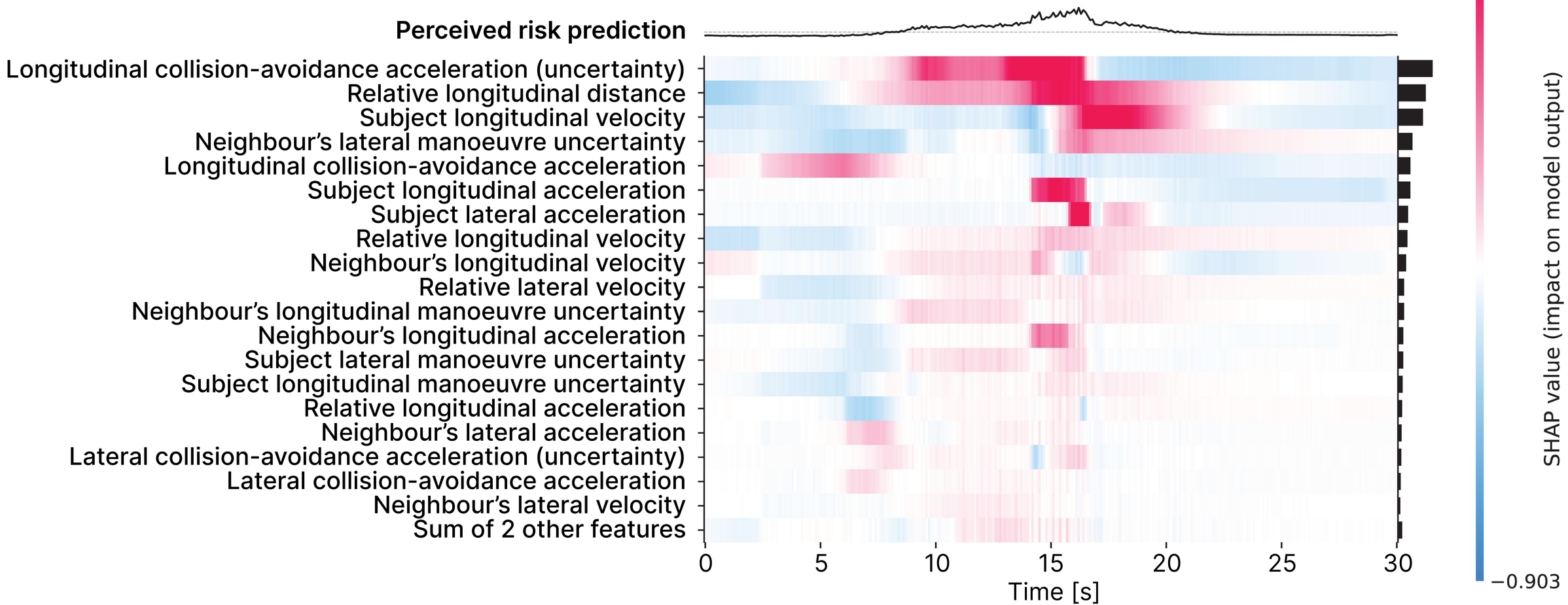
MB11


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.534
−0.534
SHAP value (impact on model output)

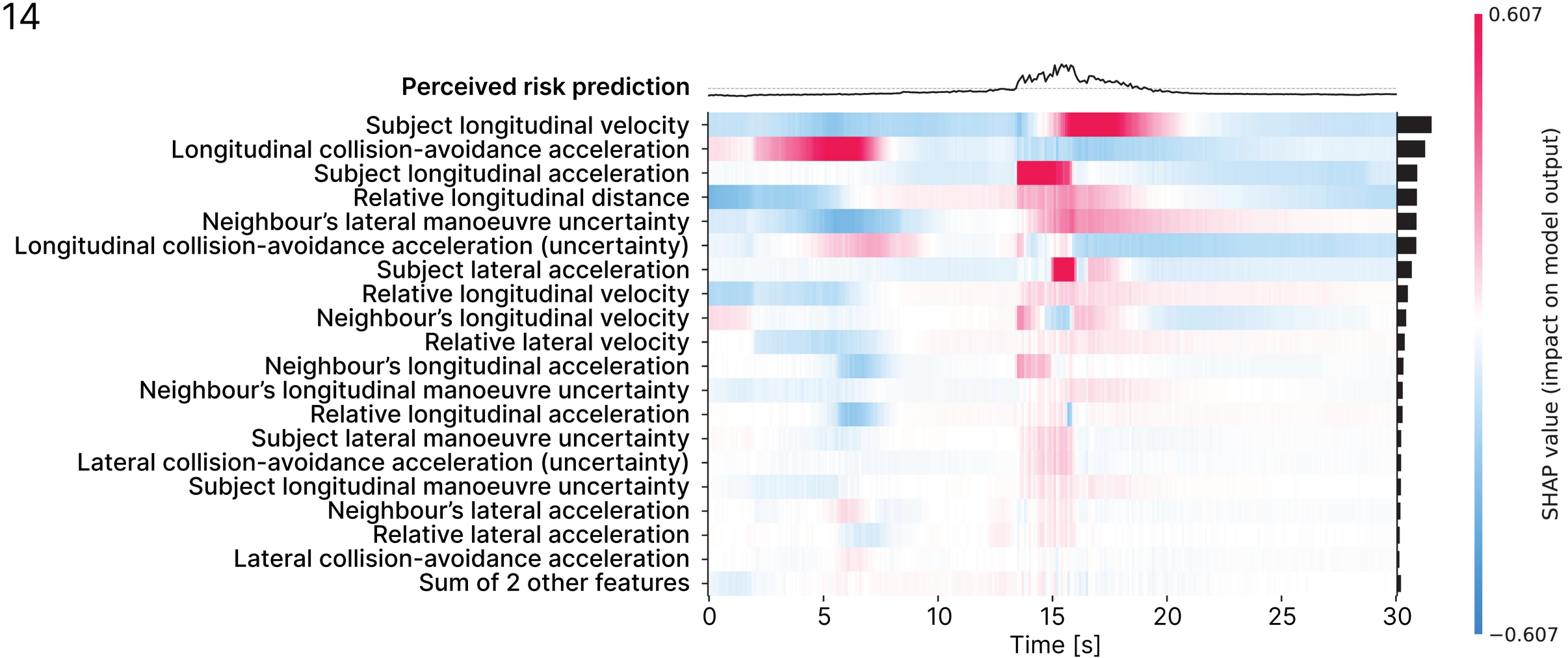
MB12


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Subject lateral acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Subject lateral manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Relative lateral distance
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4187
−0.4187
SHAP value (impact on model output)

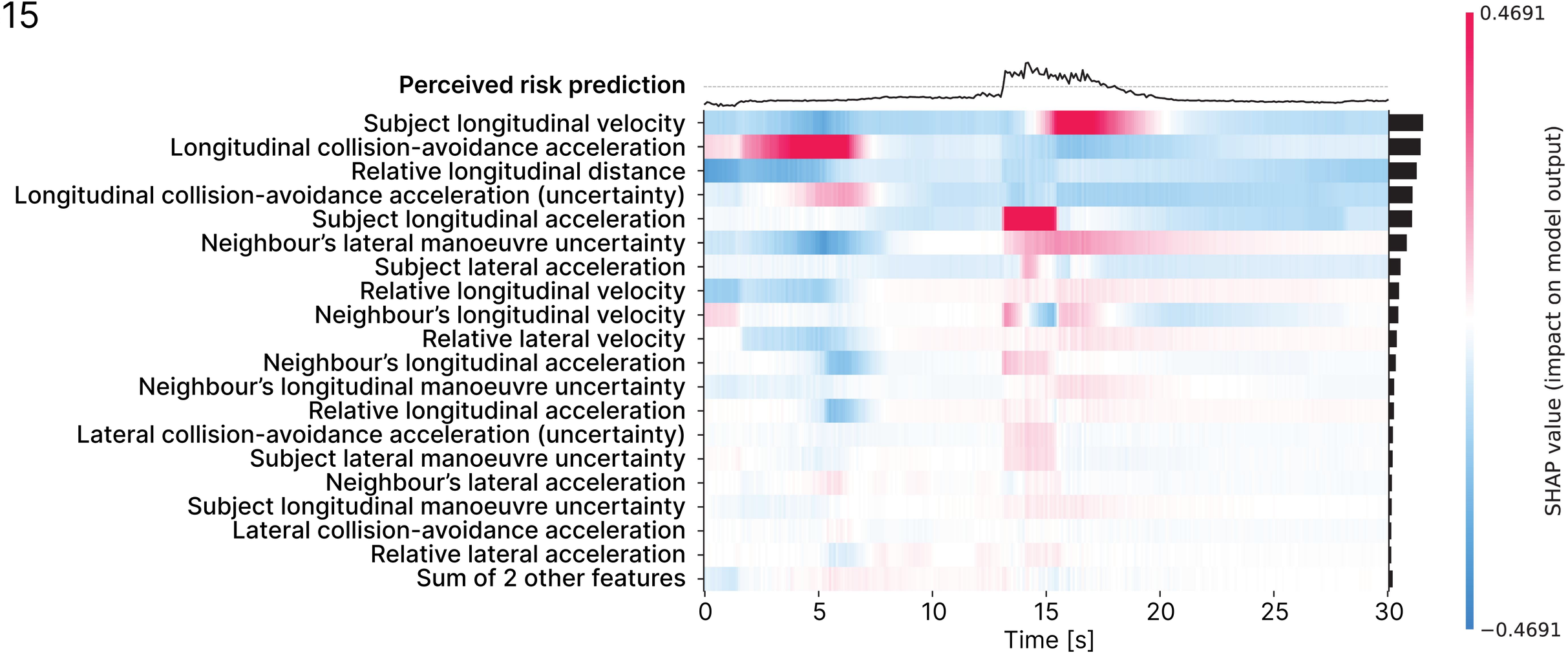
MB13


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Subject lateral acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Subject lateral manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.903
−0.903
SHAP value (impact on model output)

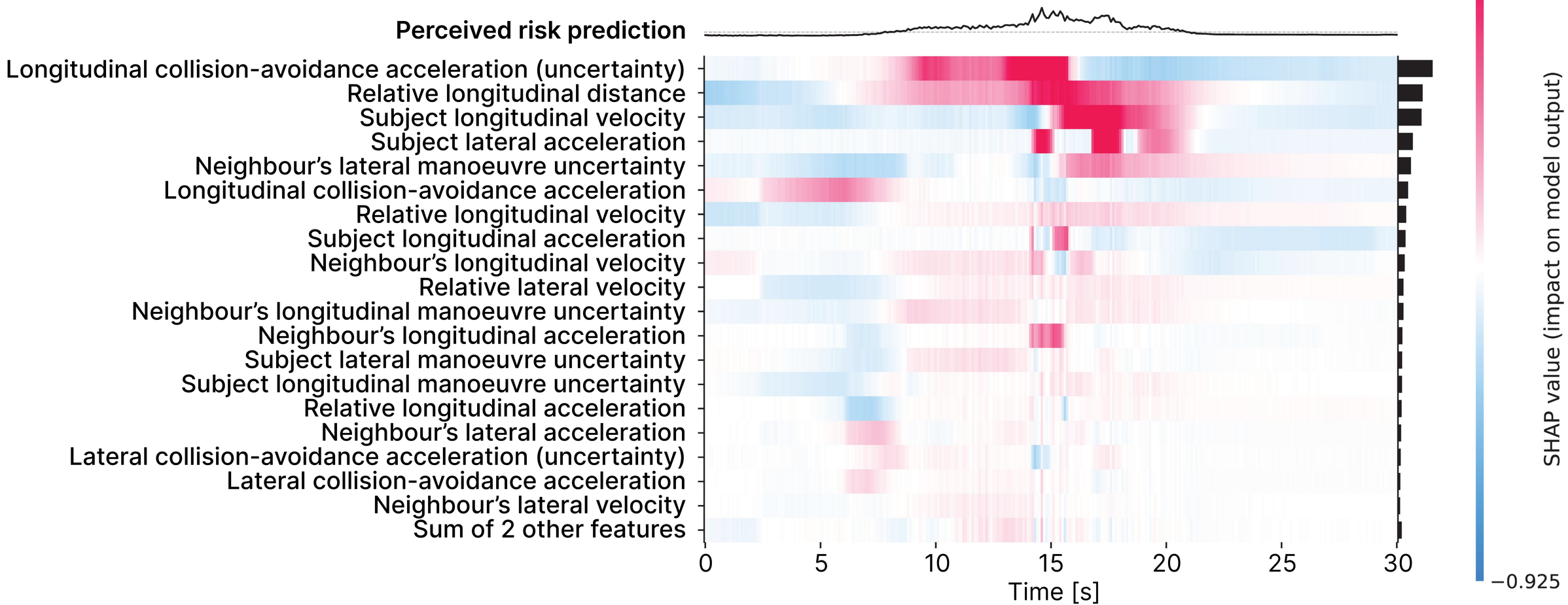
MB14


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Relative longitudinal distance
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Subject lateral acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Relative lateral acceleration
Lateral collision-avoidance acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.607
−0.607
SHAP value (impact on model output)

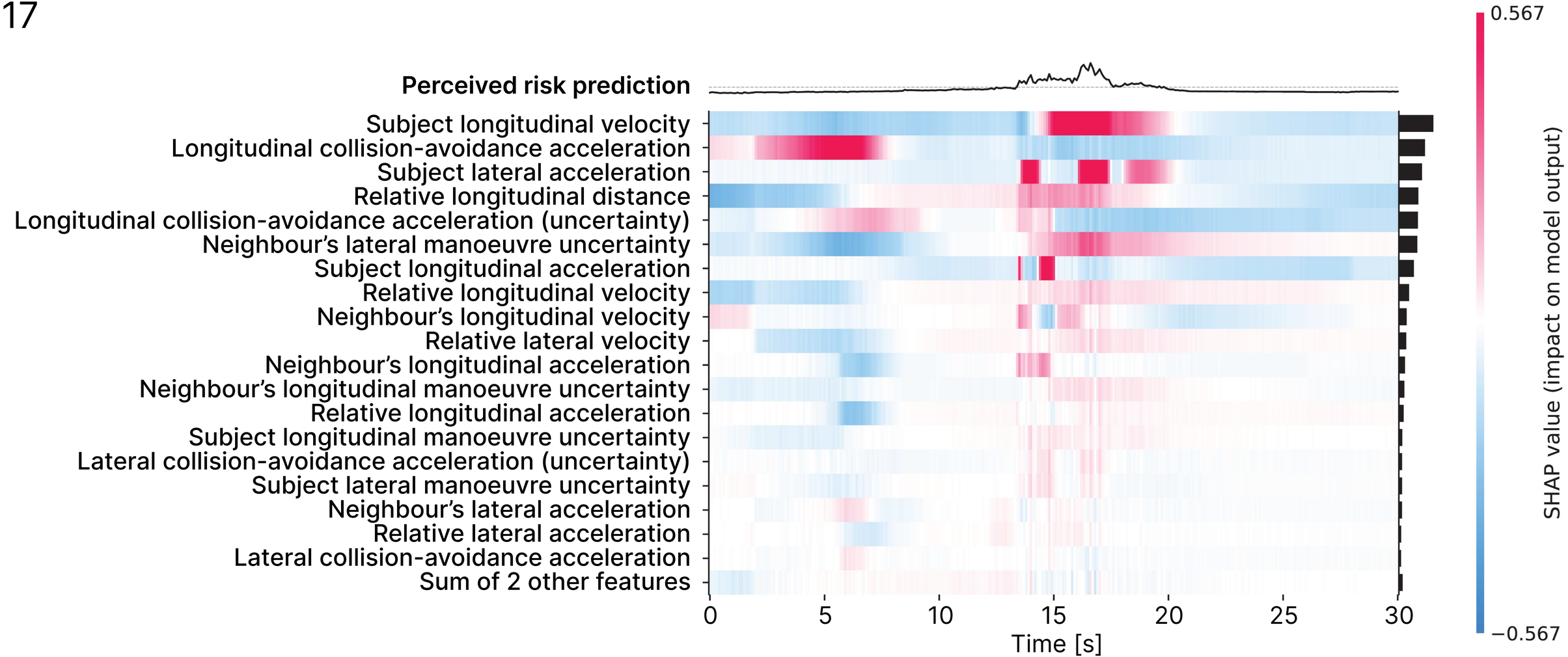
MB15


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Subject lateral acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Subject longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4691
−0.4691
SHAP value (impact on model output)

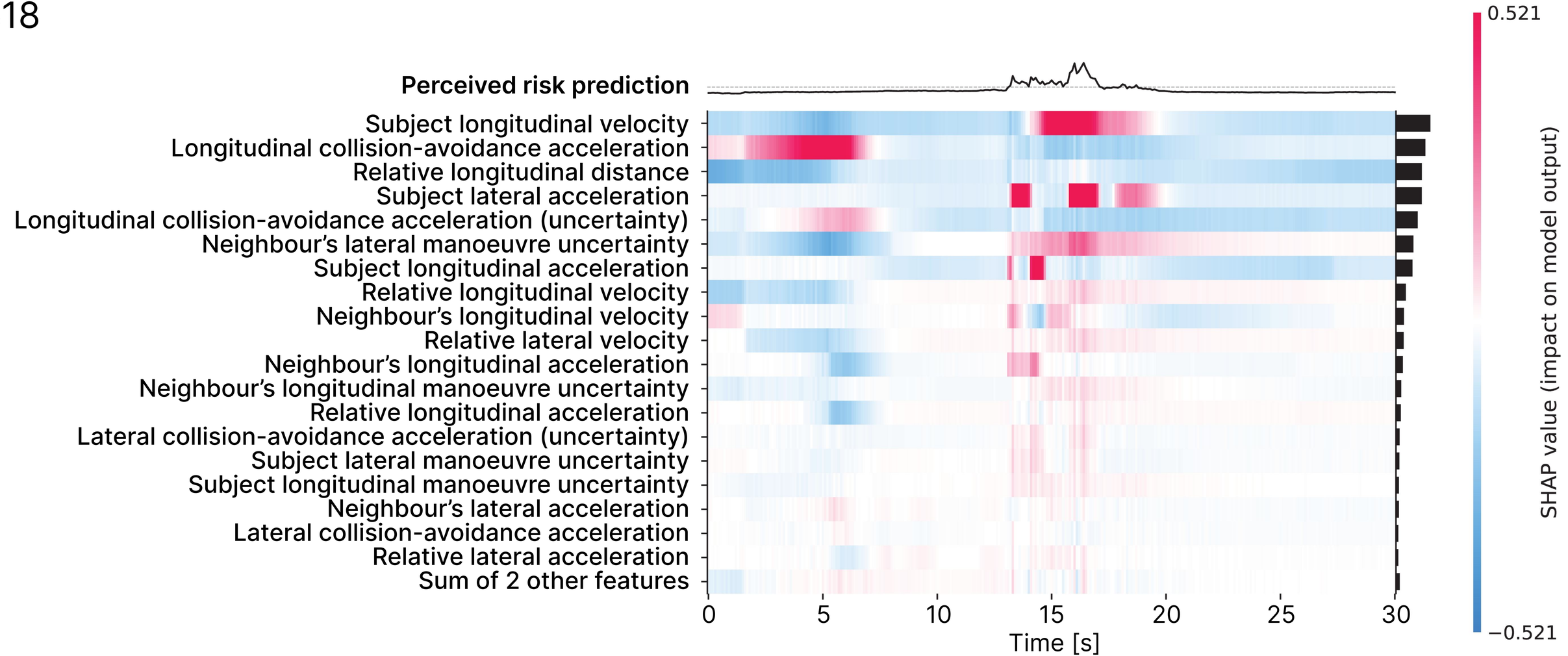
MB16


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Subject lateral acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Relative longitudinal velocity
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Subject lateral manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.925
−0.925
SHAP value (impact on model output)

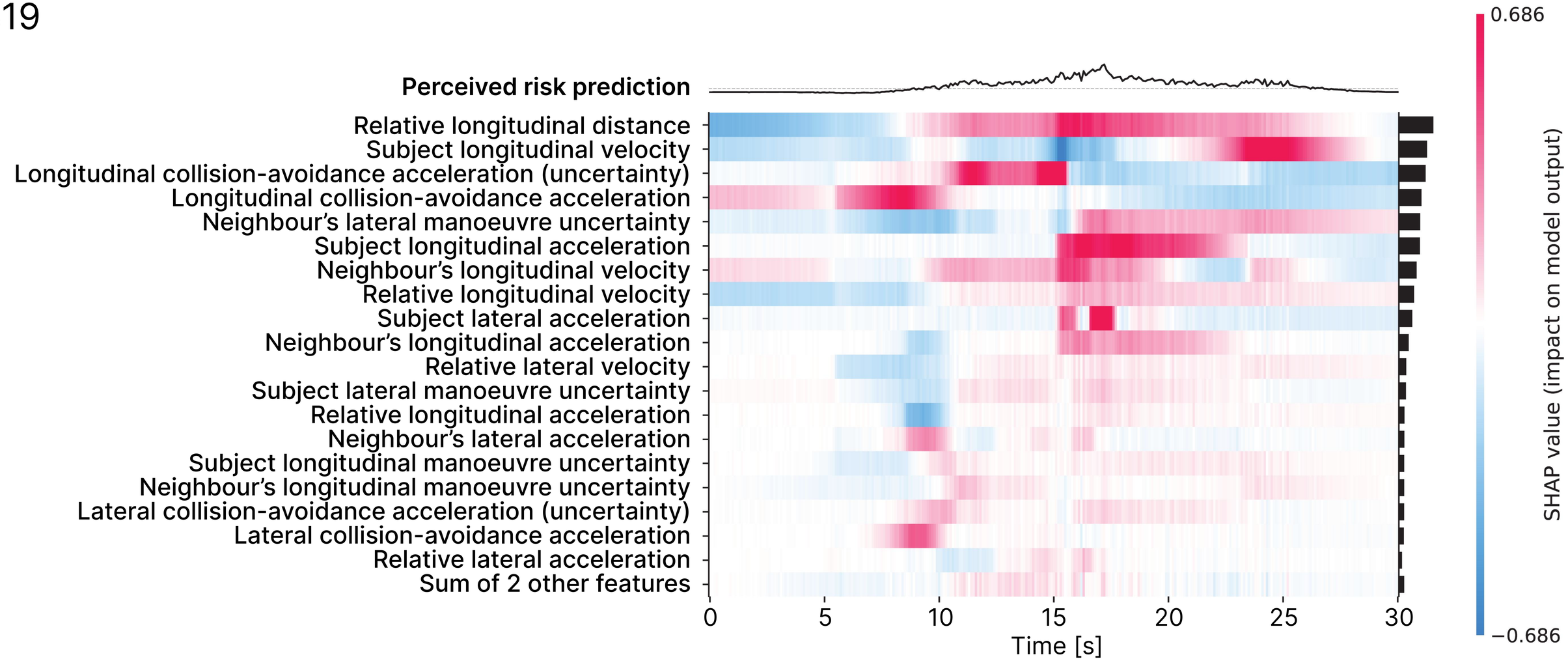
MB17


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject lateral acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Relative lateral acceleration
Lateral collision-avoidance acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.567
−0.567
SHAP value (impact on model output)

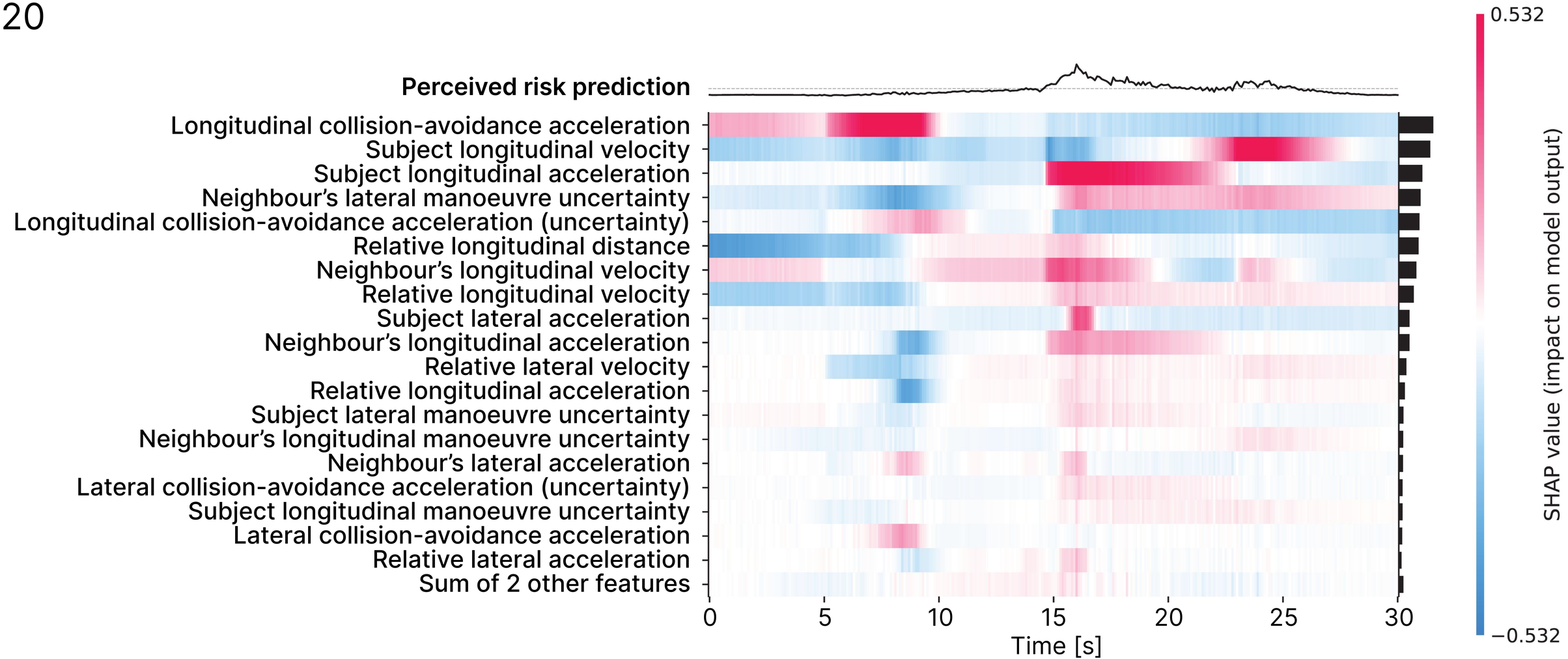
MB18


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Subject lateral acceleration
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.521
−0.521
SHAP value (impact on model output)

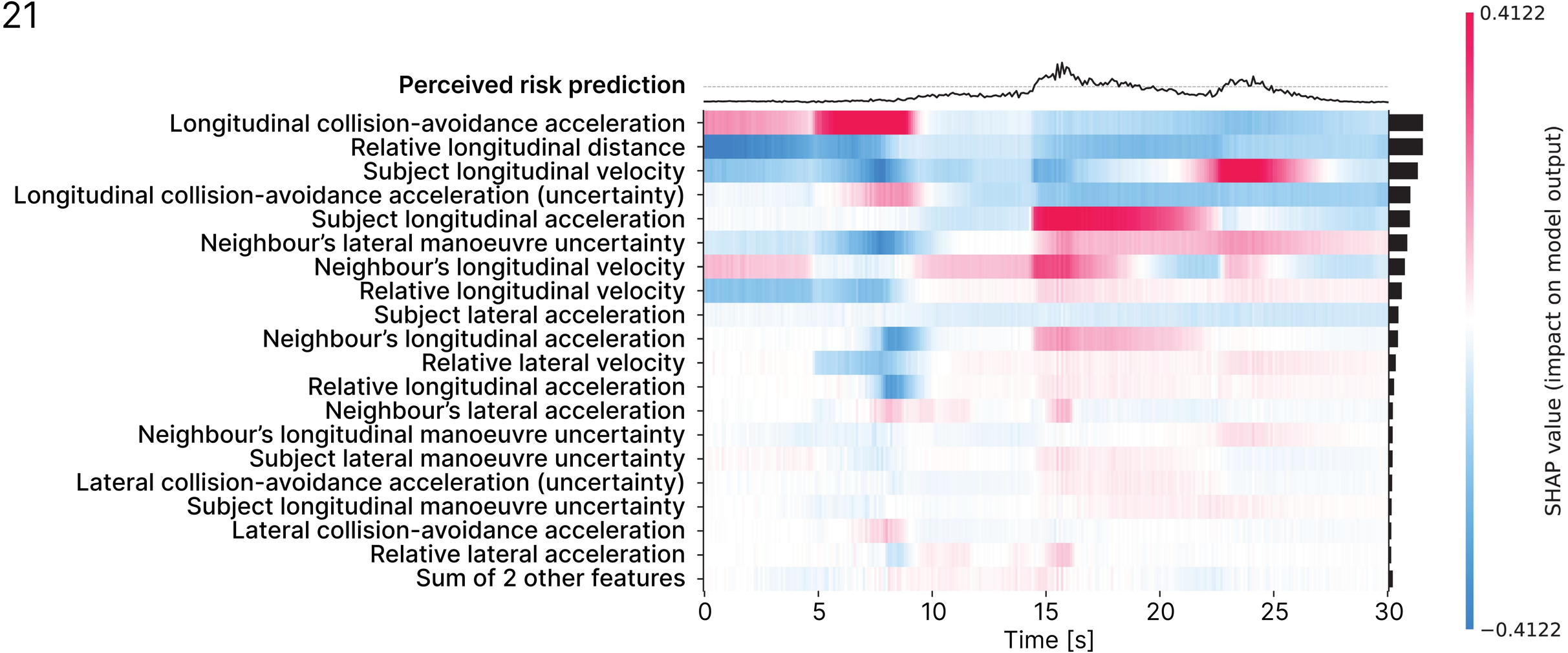
MB19


Perceived risk prediction
Relative longitudinal distance
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral acceleration
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.686
−0.686
SHAP value (impact on model output)

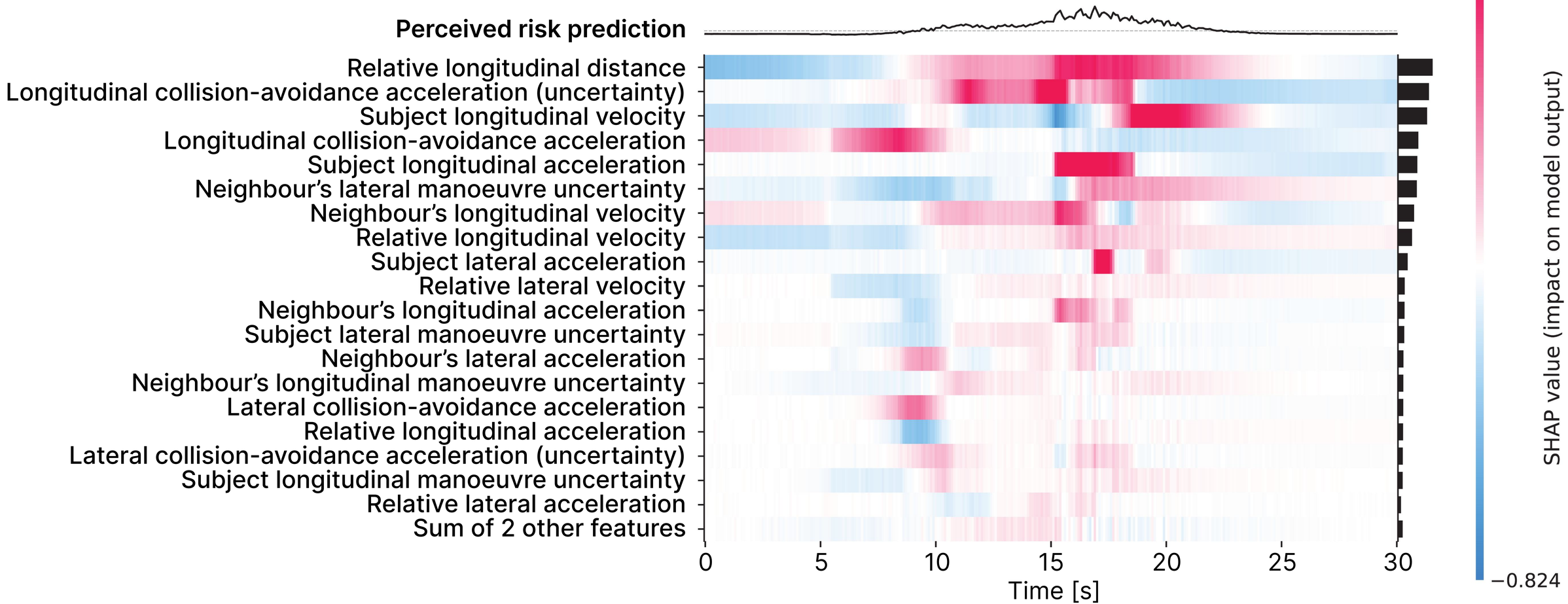
MB20


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.532
−0.532
SHAP value (impact on model output)

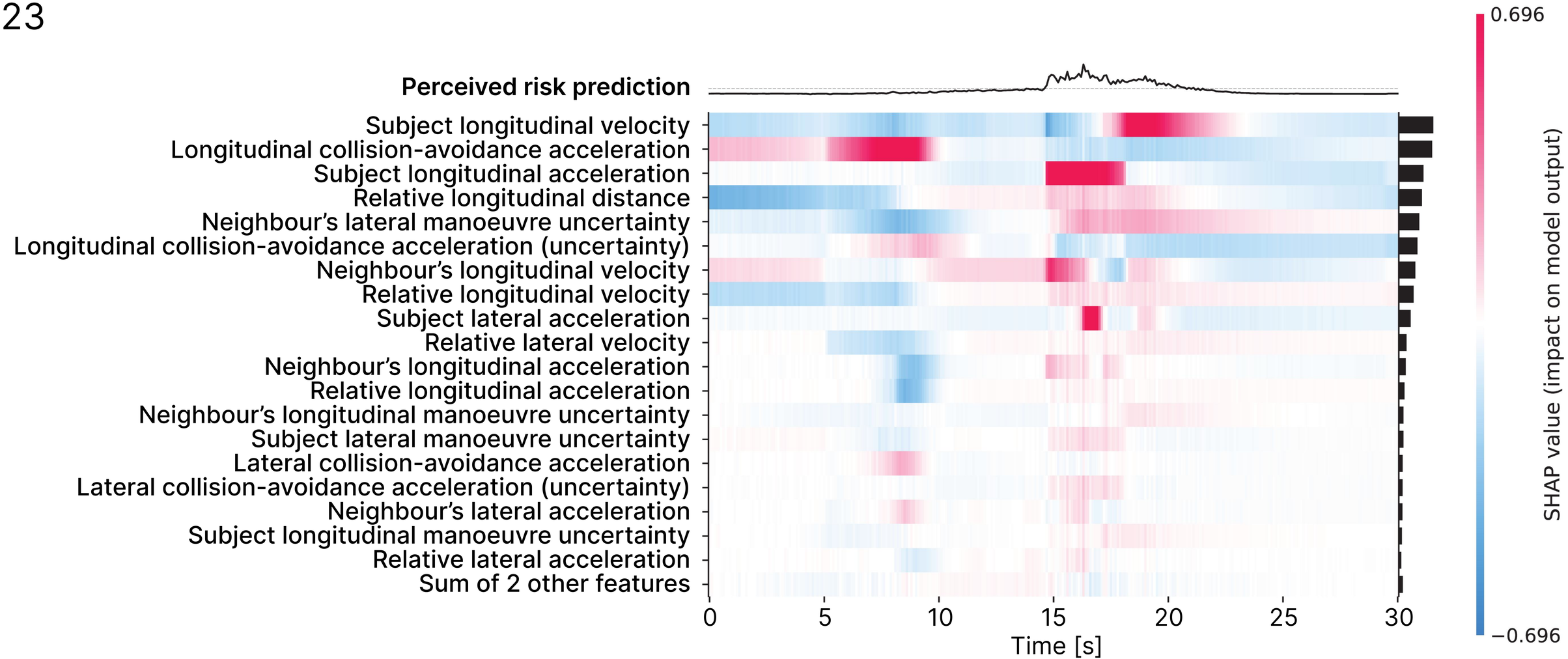
MB21


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Neighbour's lateral acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.4122
−0.4122
SHAP value (impact on model output)

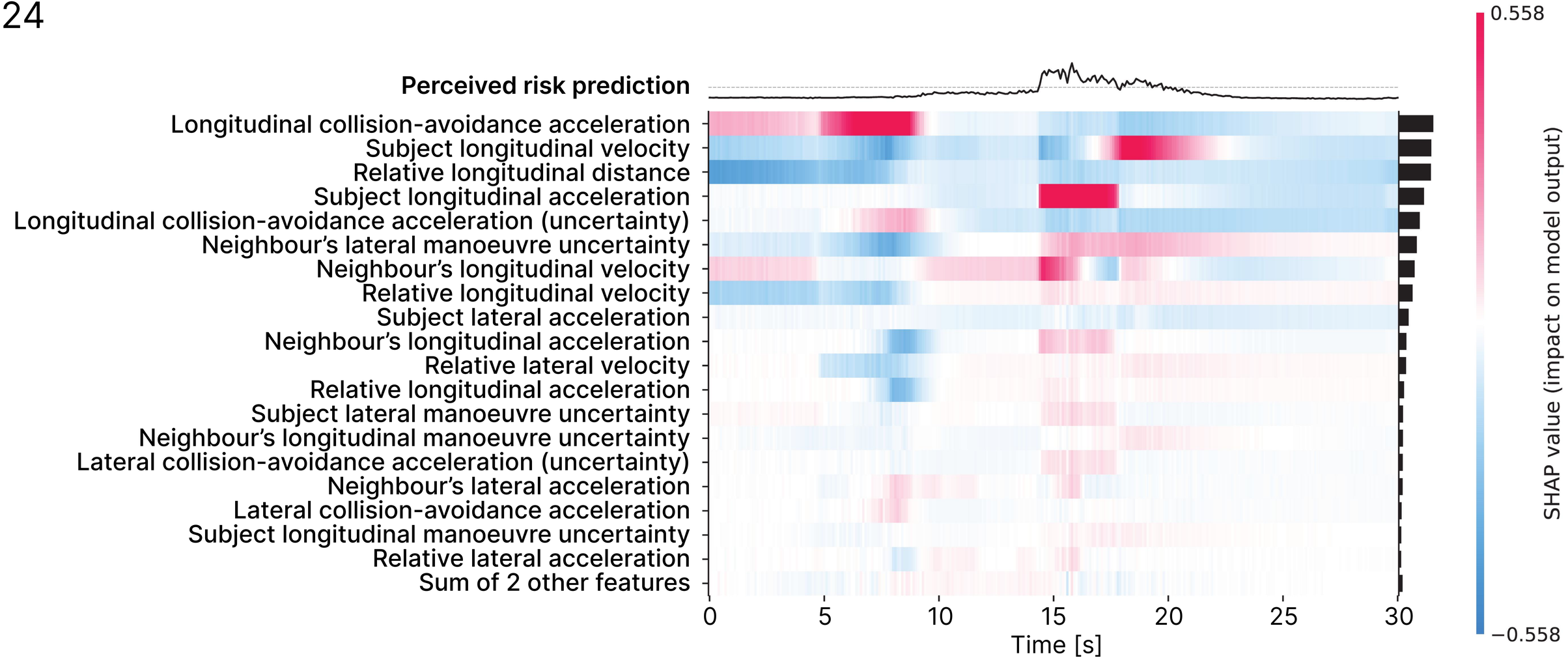
MB22


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's lateral acceleration
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Relative longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.824
−0.824
SHAP value (impact on model output)

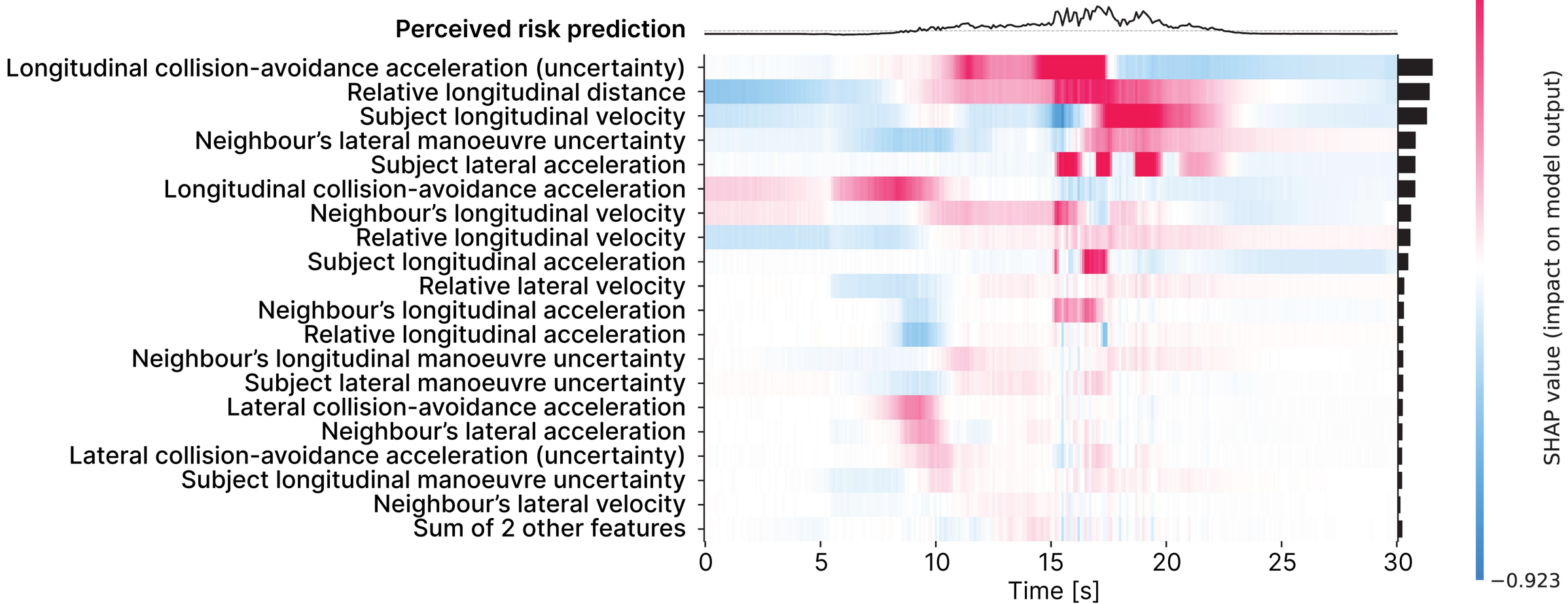
MB23


Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Relative longitudinal distance
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.696
−0.696
SHAP value (impact on model output)

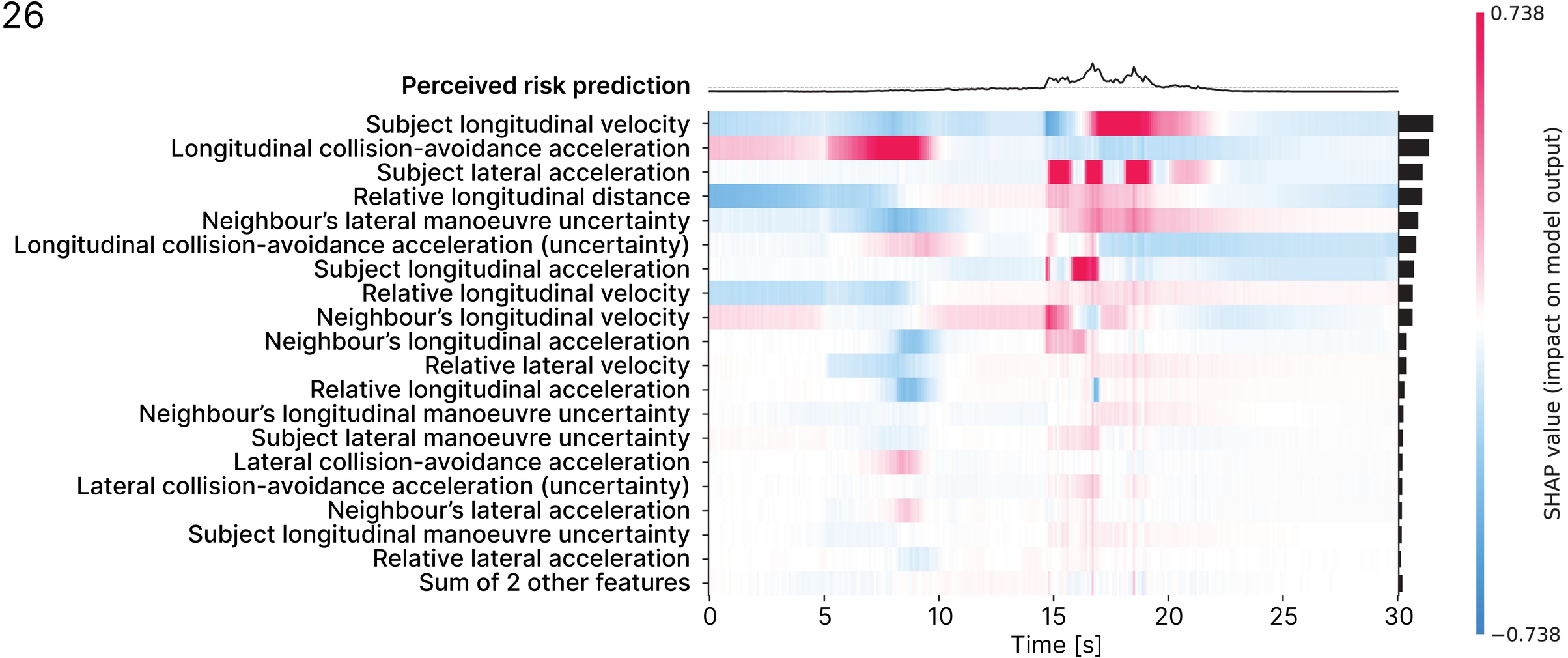
MB24


Perceived risk prediction
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Relative longitudinal distance
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.558
−0.558
SHAP value (impact on model output)

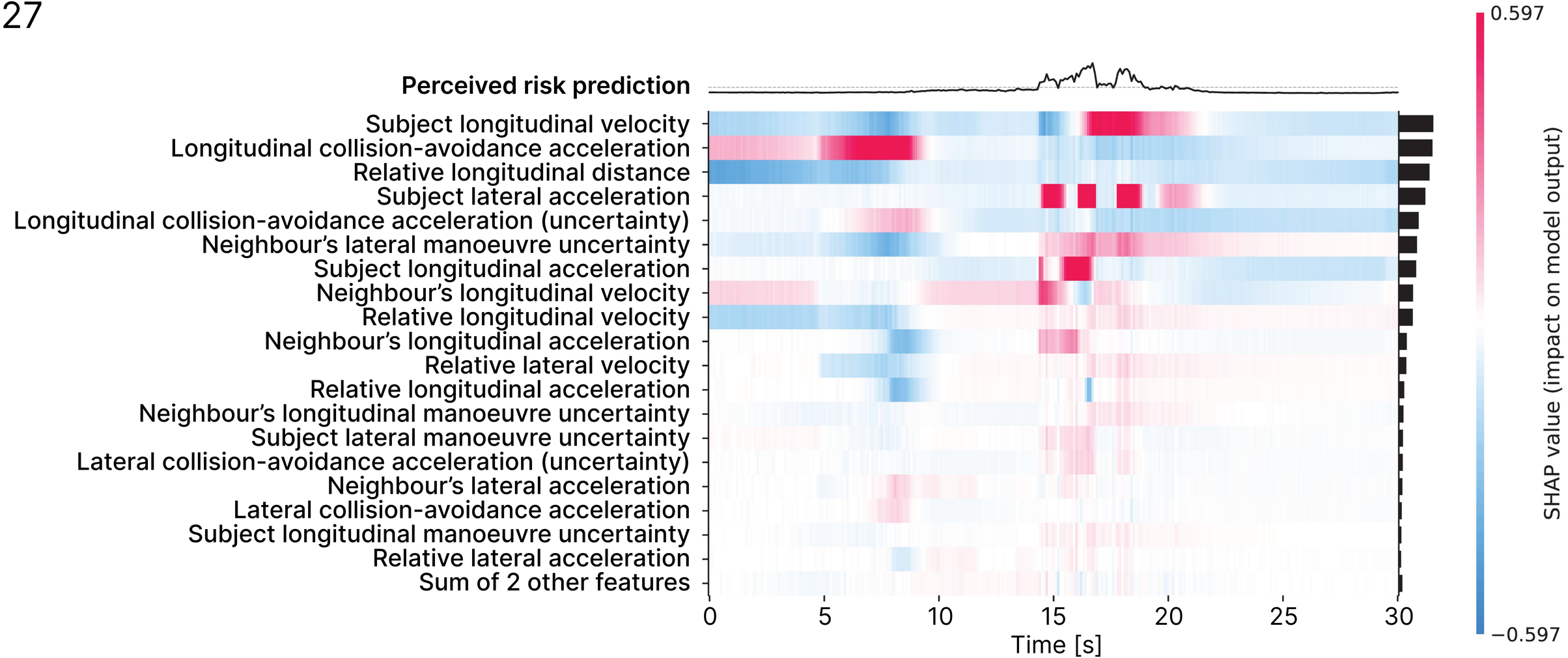
MB25

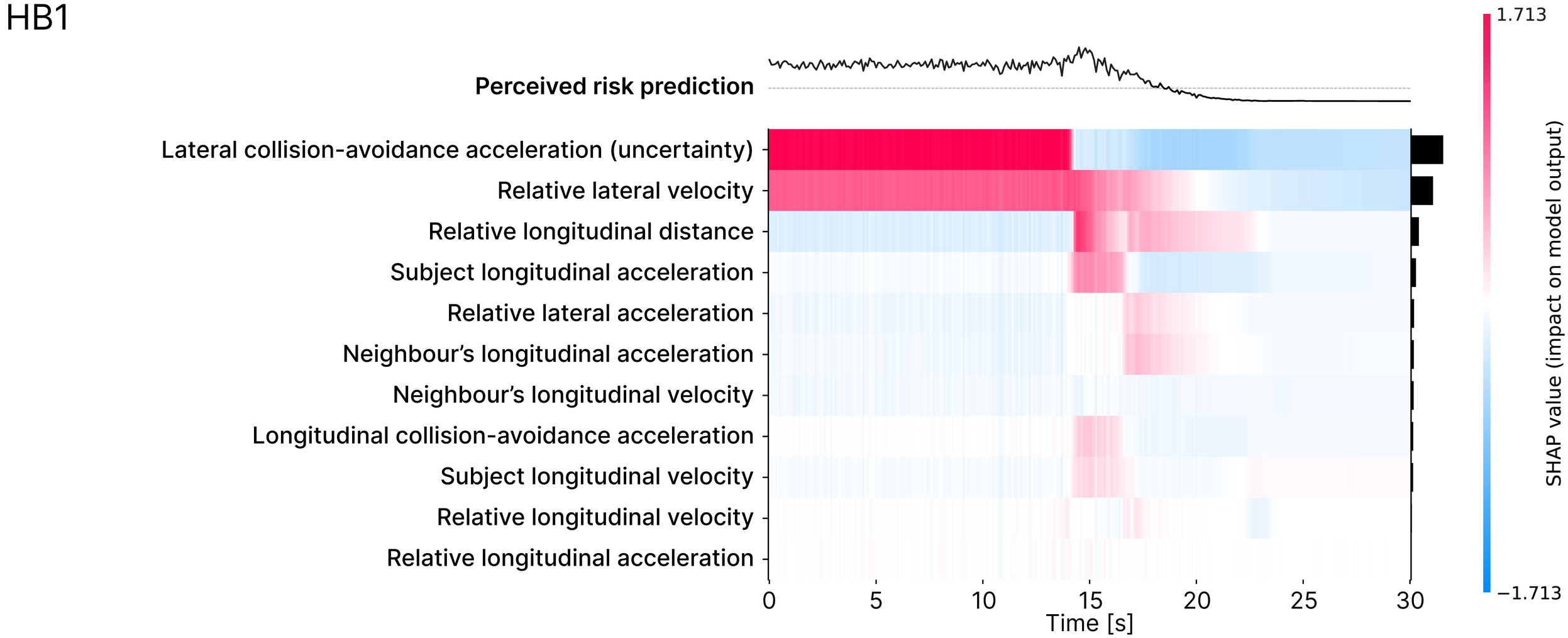

Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject lateral acceleration
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject longitudinal acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral velocity
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.923
−0.923
SHAP value (impact on model output)

MB26

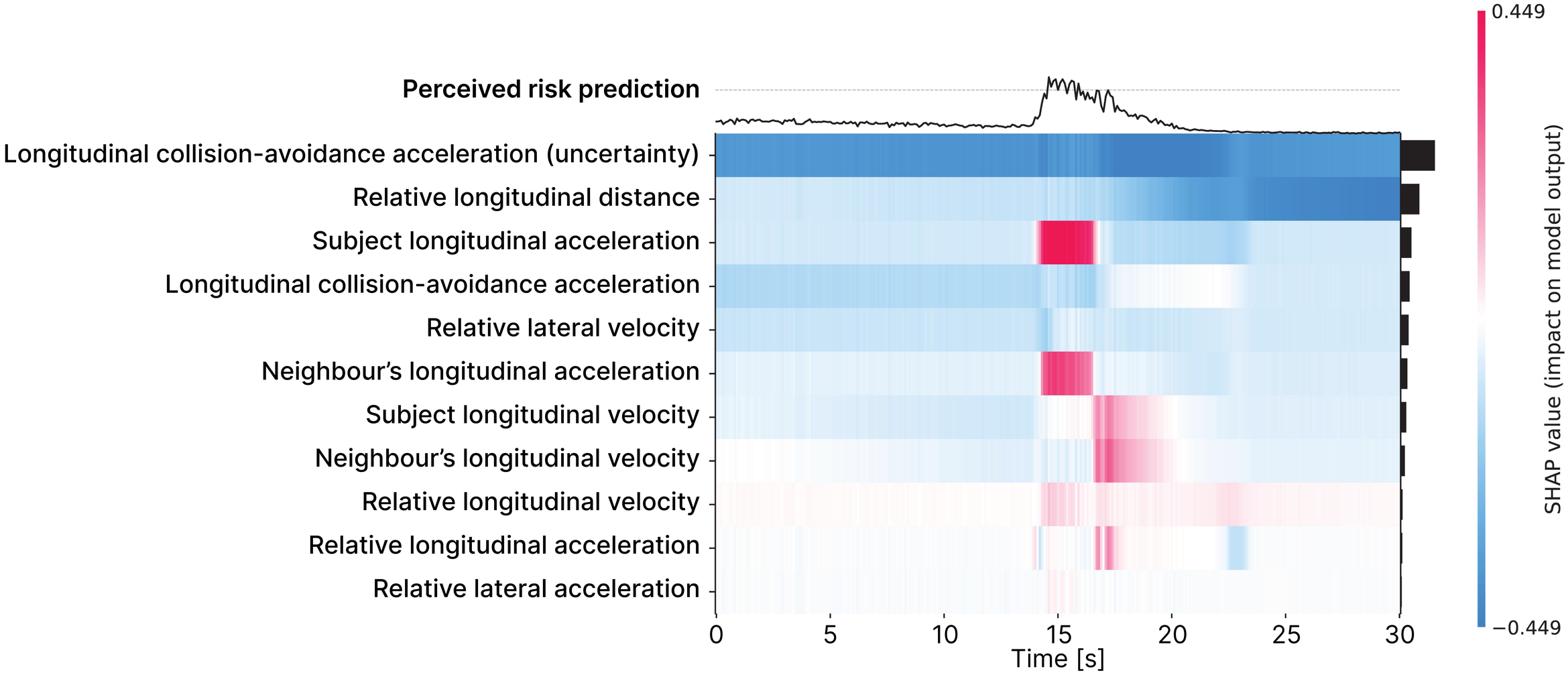

Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject lateral acceleration
Relative longitudinal distance
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.738
−0.738
SHAP value (impact on model output)

MB27

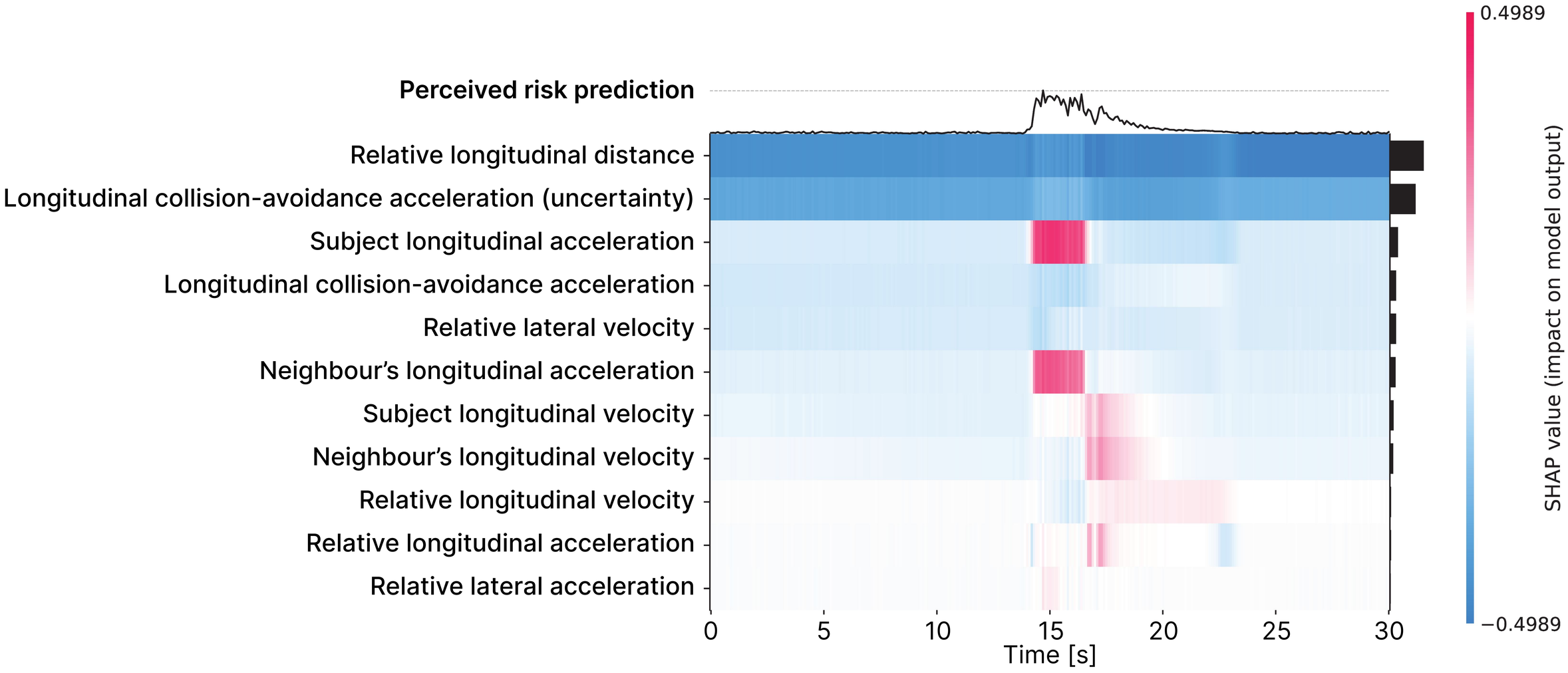

Perceived risk prediction
Subject longitudinal velocity
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Subject lateral acceleration
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Sum of 2 other features
0
5
10
15
20
25
30
Time [s]
0.597
−0.597
SHAP value (impact on model output)

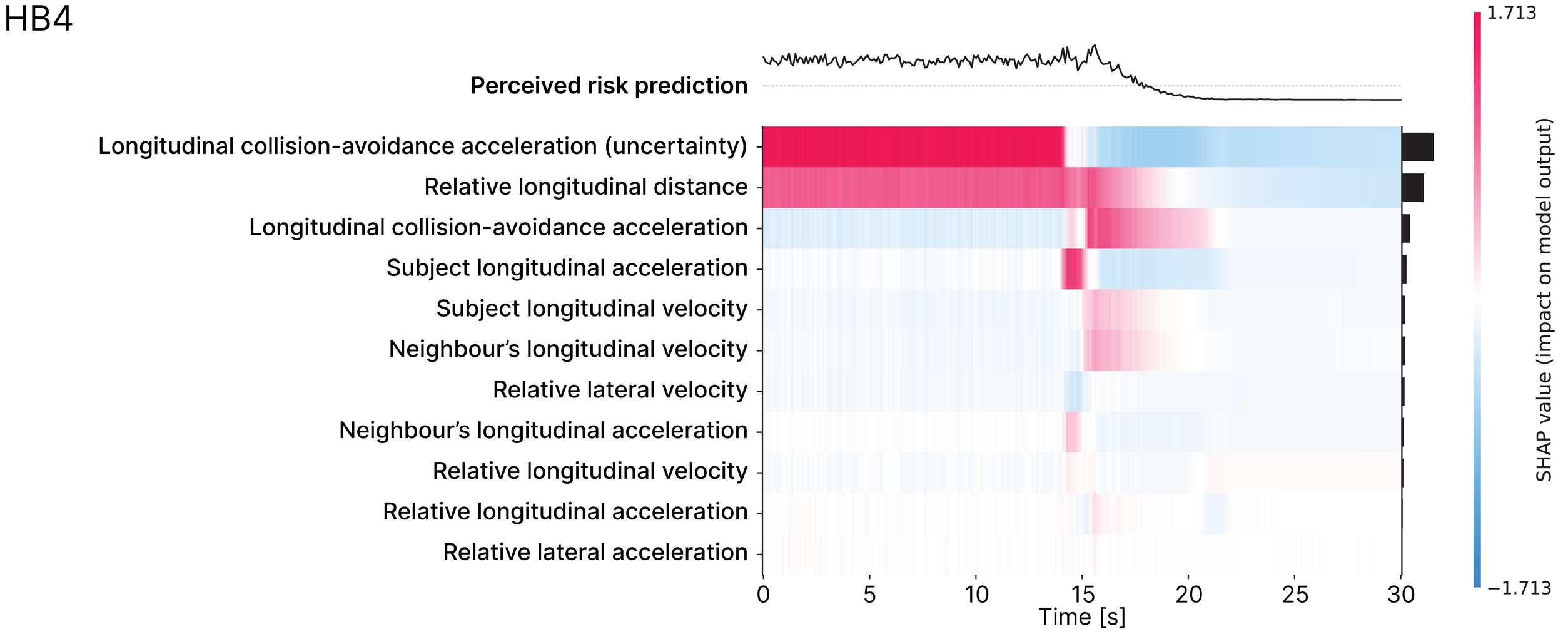

HB1
Perceived risk prediction
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Relative longitudinal distance
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.713
−1.713
SHAP value (impact on model output)

HB2

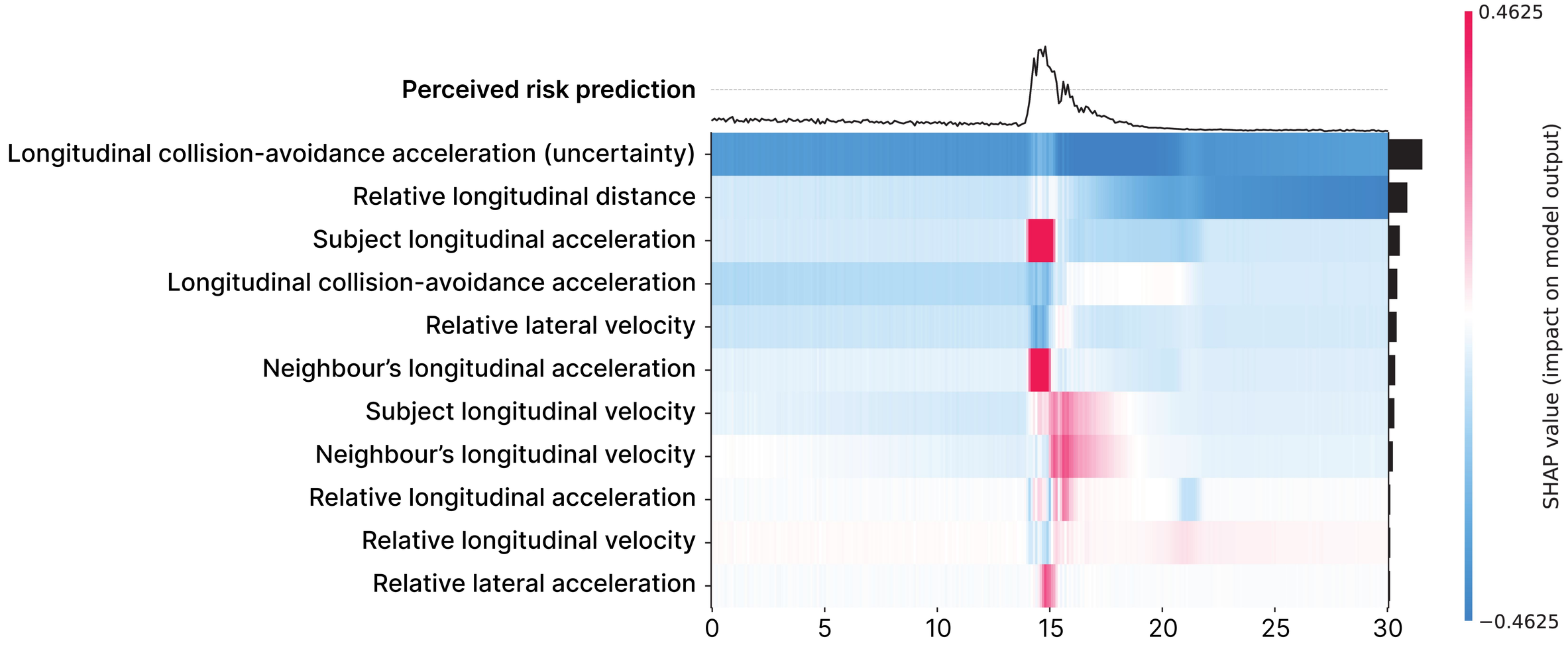

Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
0.449
−0.449
SHAP value (impact on model output)

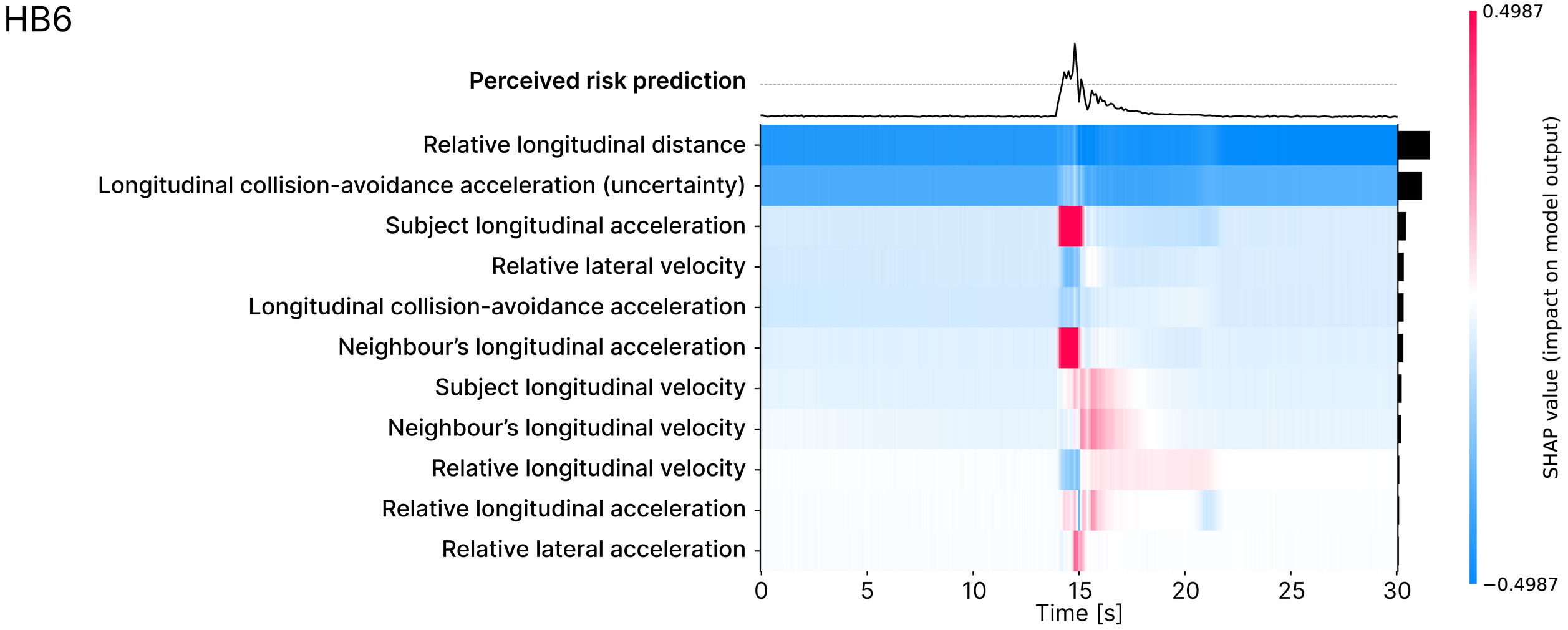
HB3


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
0.4989
−0.4989
SHAP value (impact on model output)

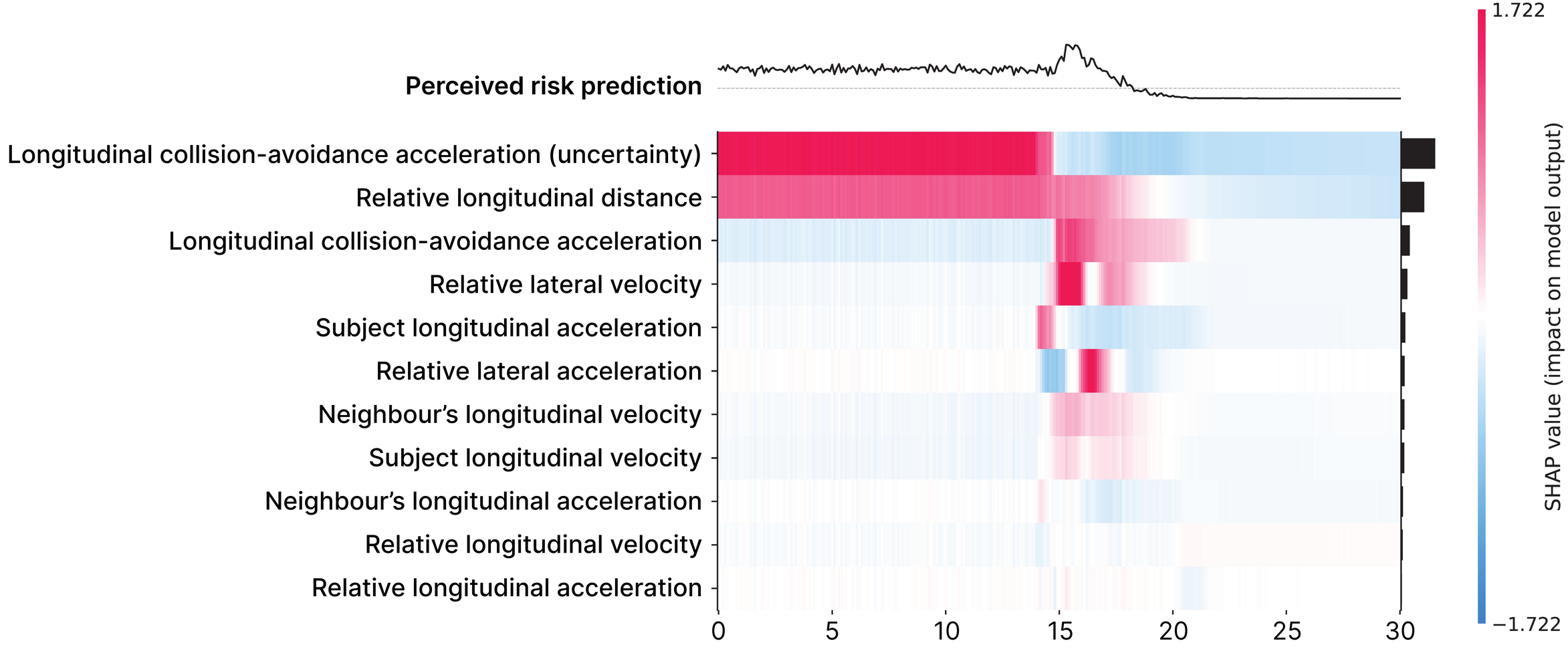

HB4
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal acceleration
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
1.713
−1.713
SHAP value (impact on model output)

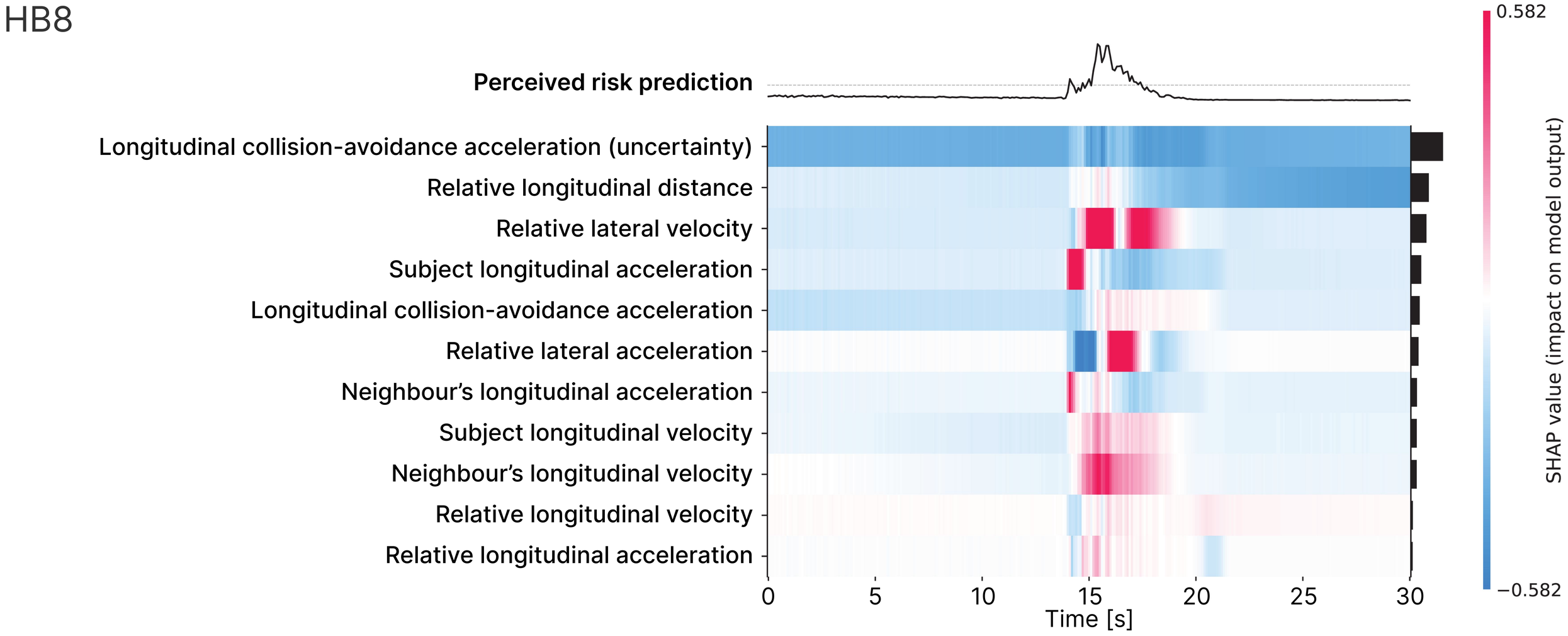
HB5

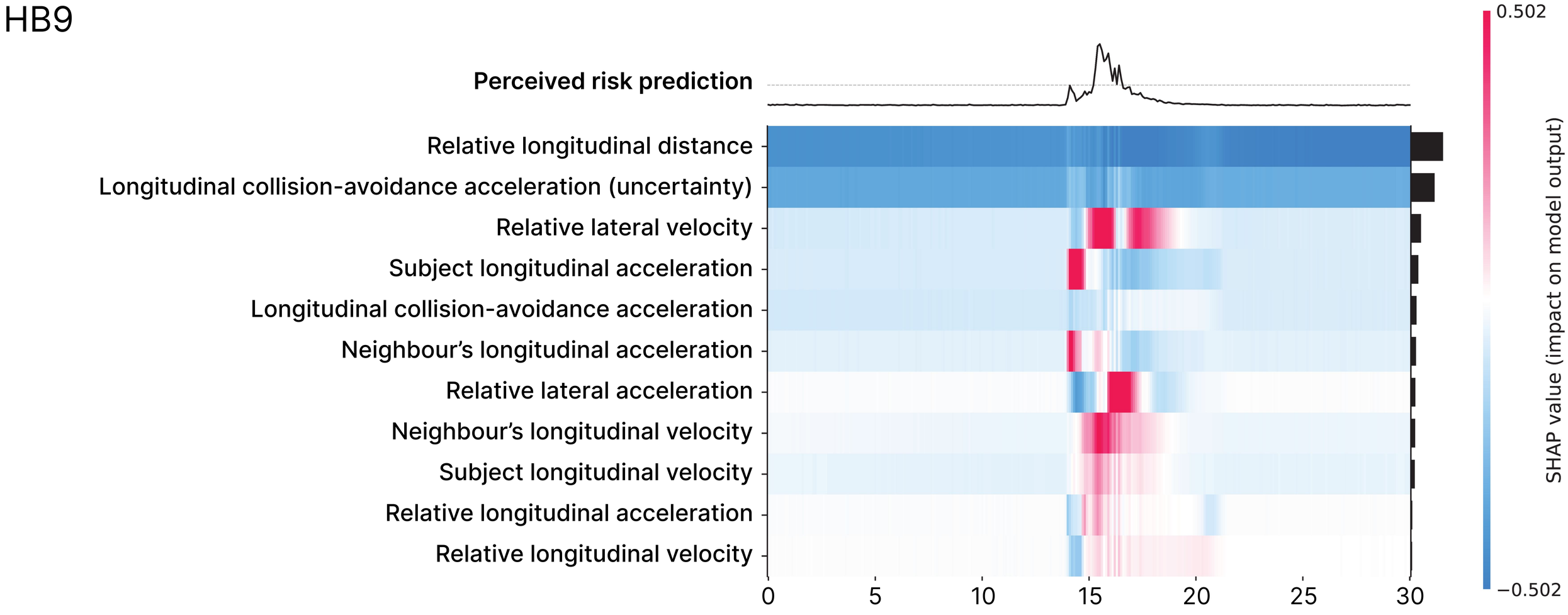

Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative longitudinal acceleration
Relative longitudinal velocity
Relative lateral acceleration
0
5
10
15
20
25
30
0.4625
−0.4625
SHAP value (impact on model output)

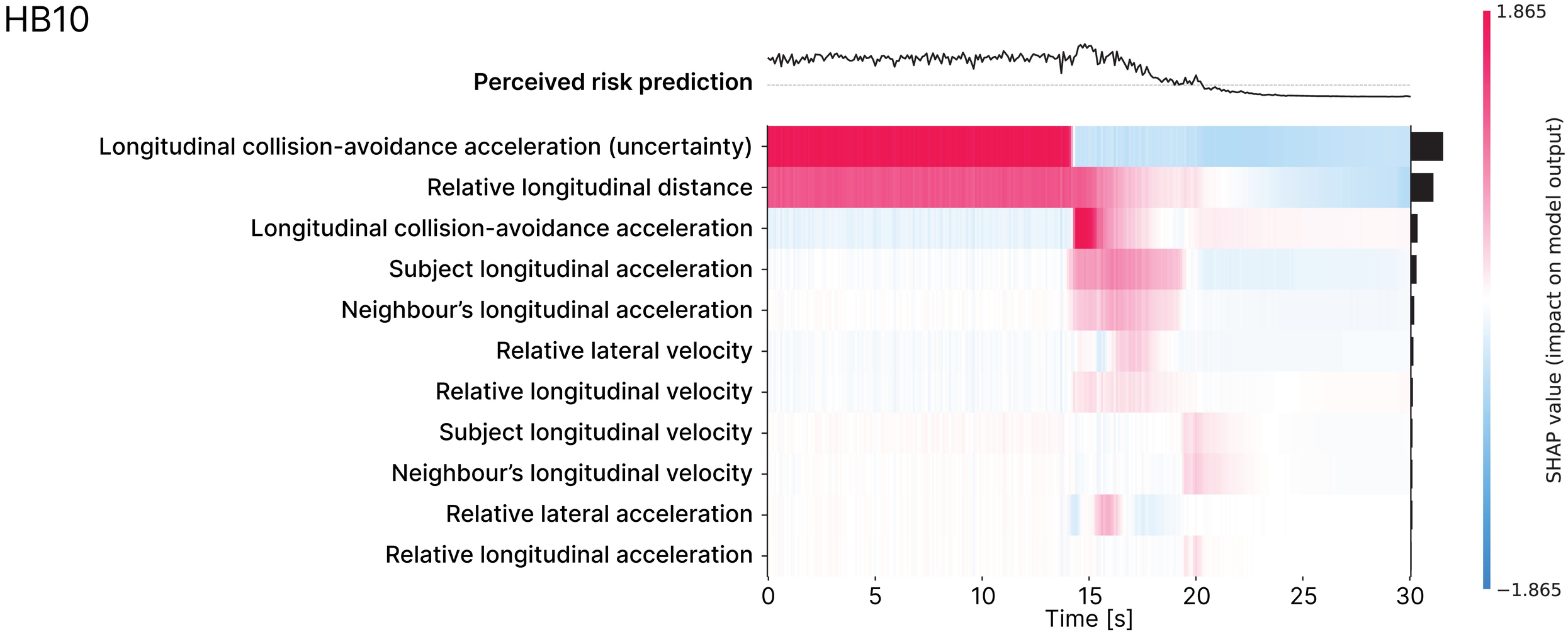

HB6
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
0.4987
−0.4987
SHAP value (impact on model output)

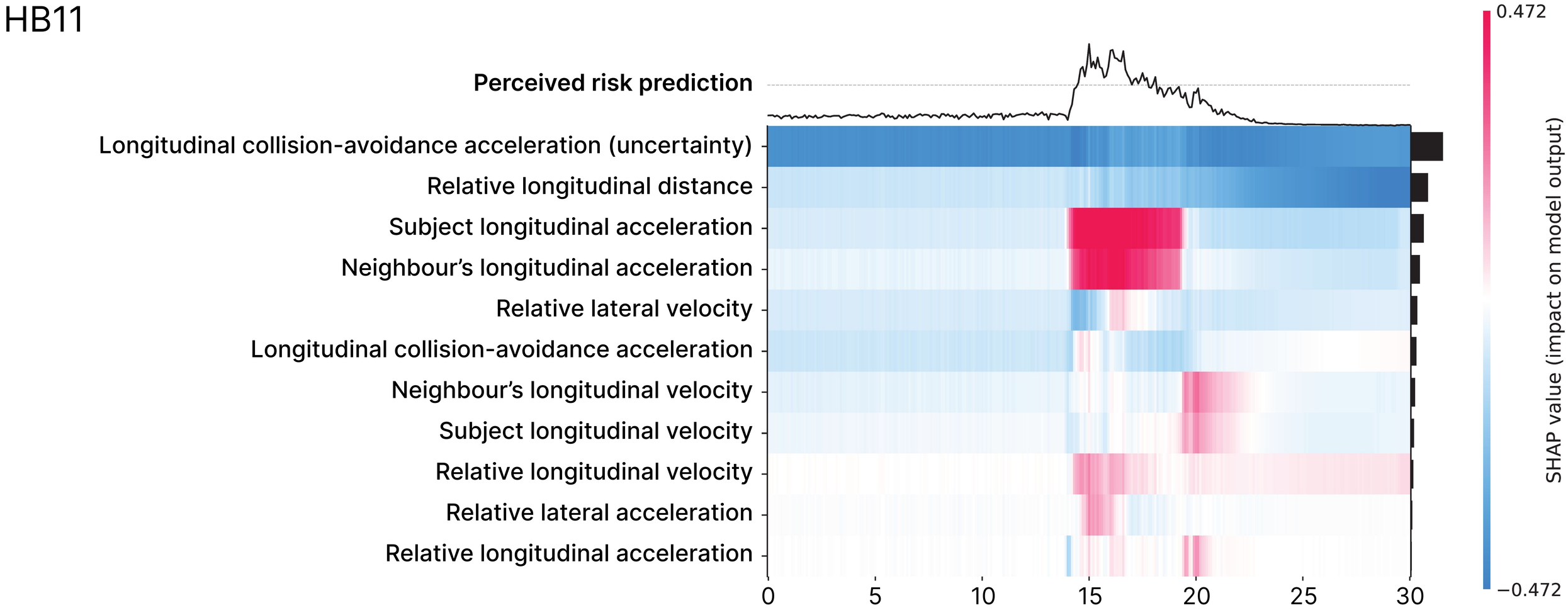
HB7

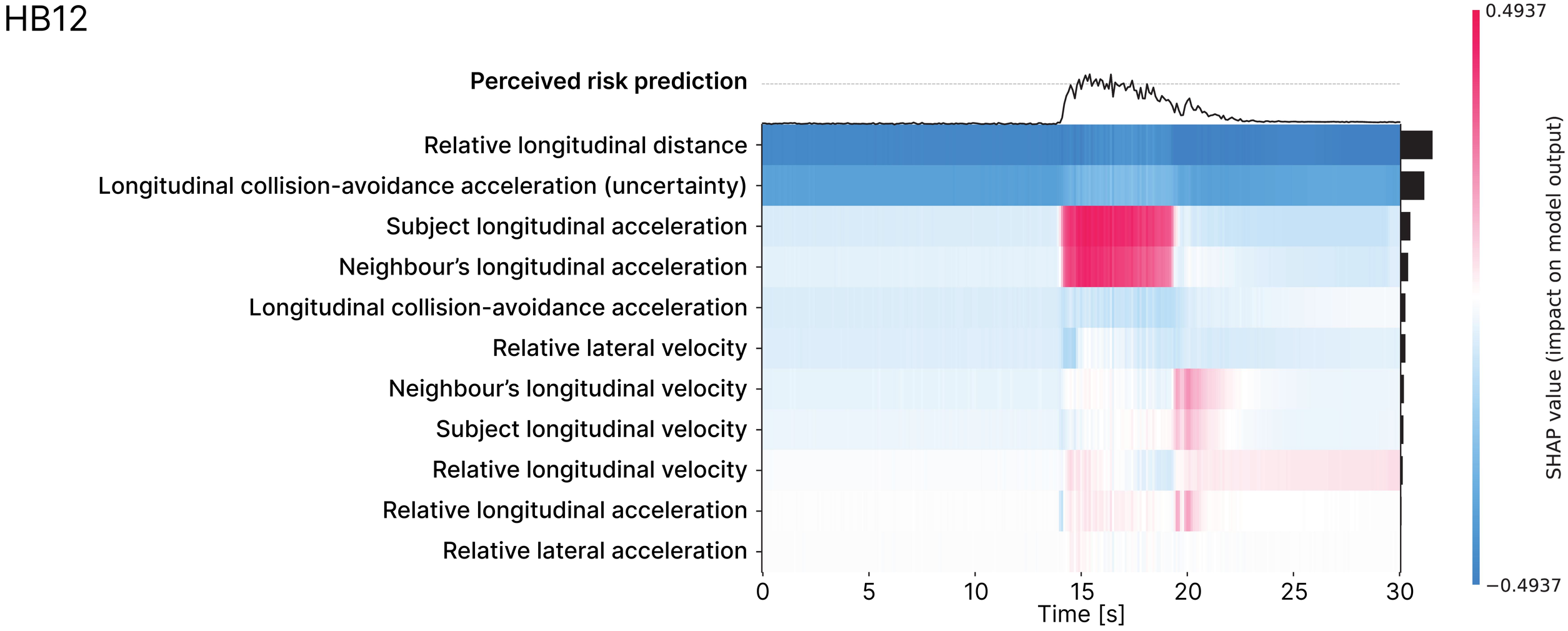

Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Neighbour's longitudinal acceleration
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
1.722
−1.722
SHAP value (impact on model output)

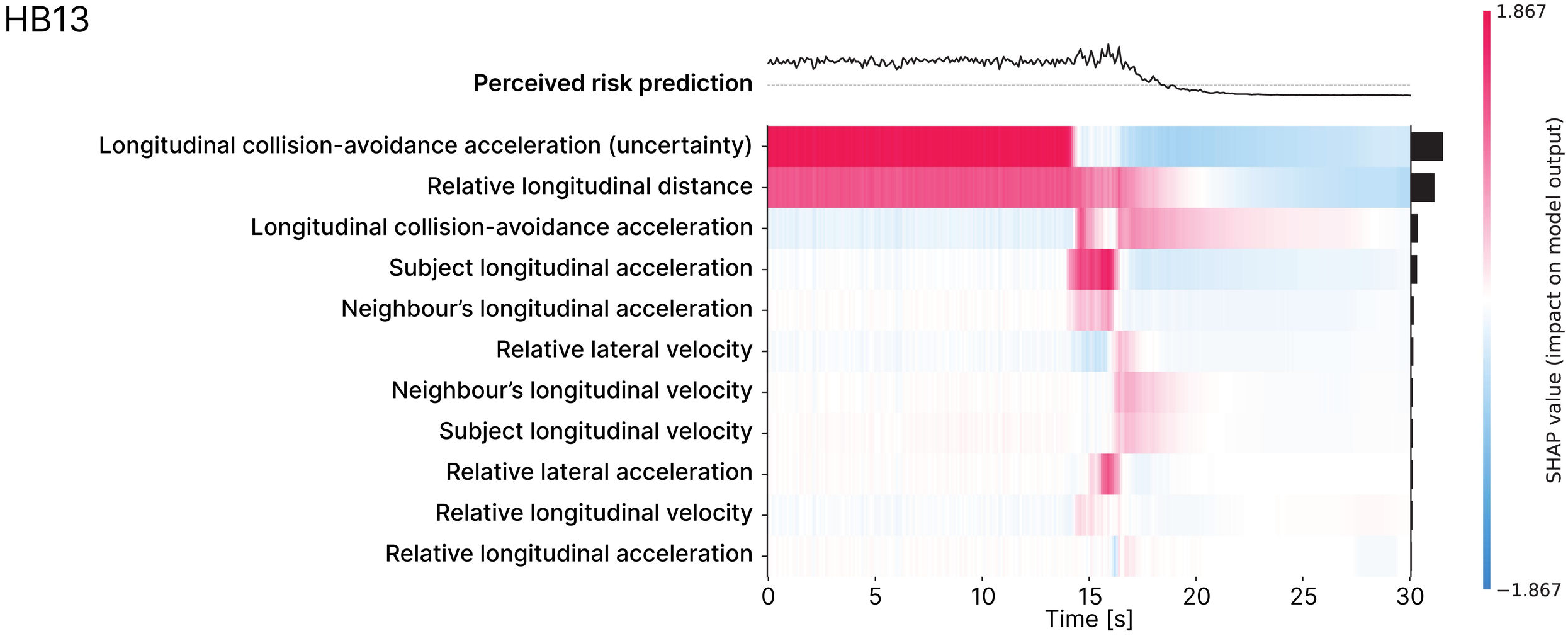

HB8
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Relative lateral velocity
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
0.582
−0.582
SHAP value (impact on model output)

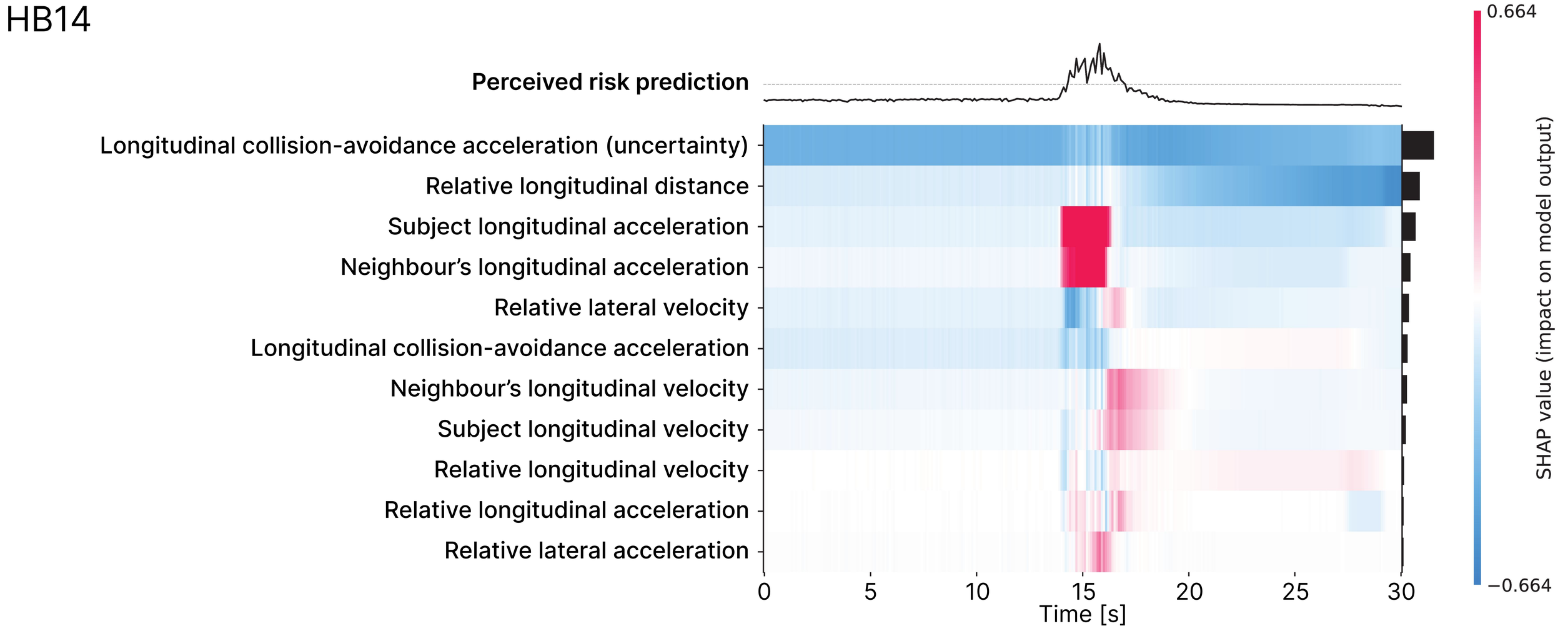

HB9
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal acceleration
Relative longitudinal velocity
0
5
10
15
20
25
30
0.502
−0.502
SHAP value (impact on model output)

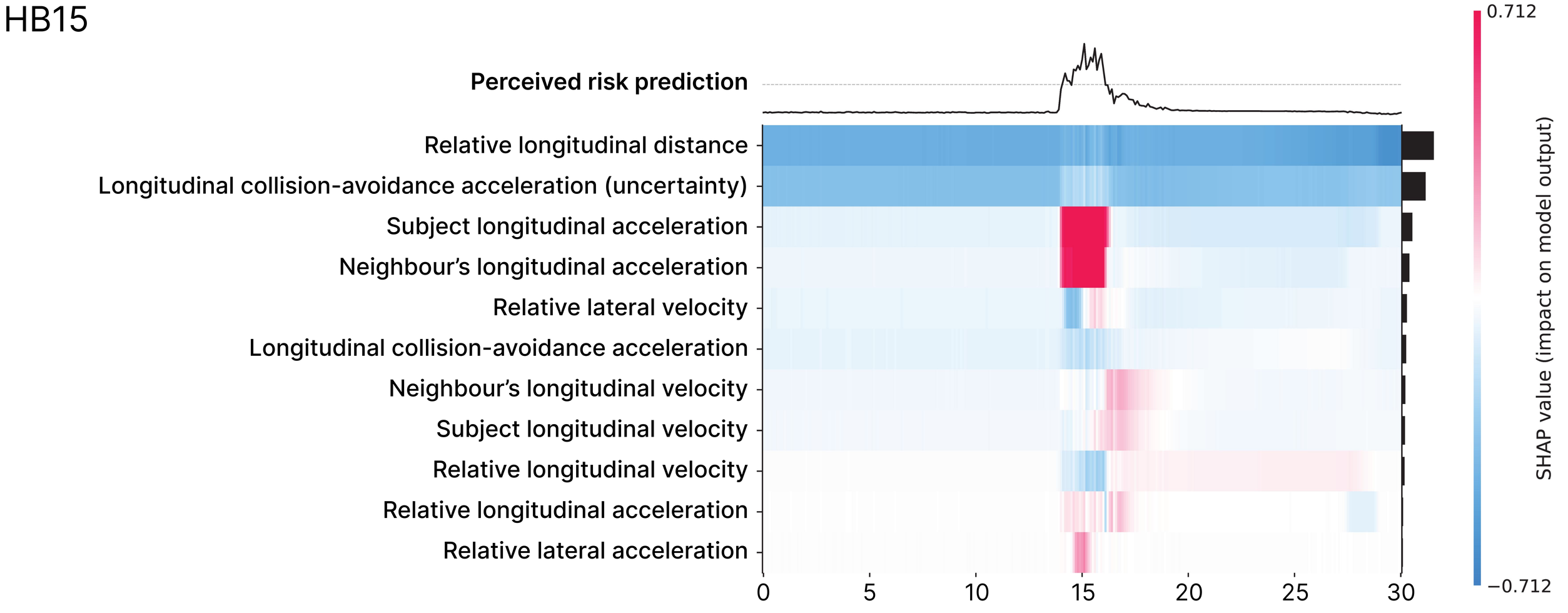

HB10
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Relative longitudinal velocity
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral acceleration
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.865
−1.865
SHAP value (impact on model output)

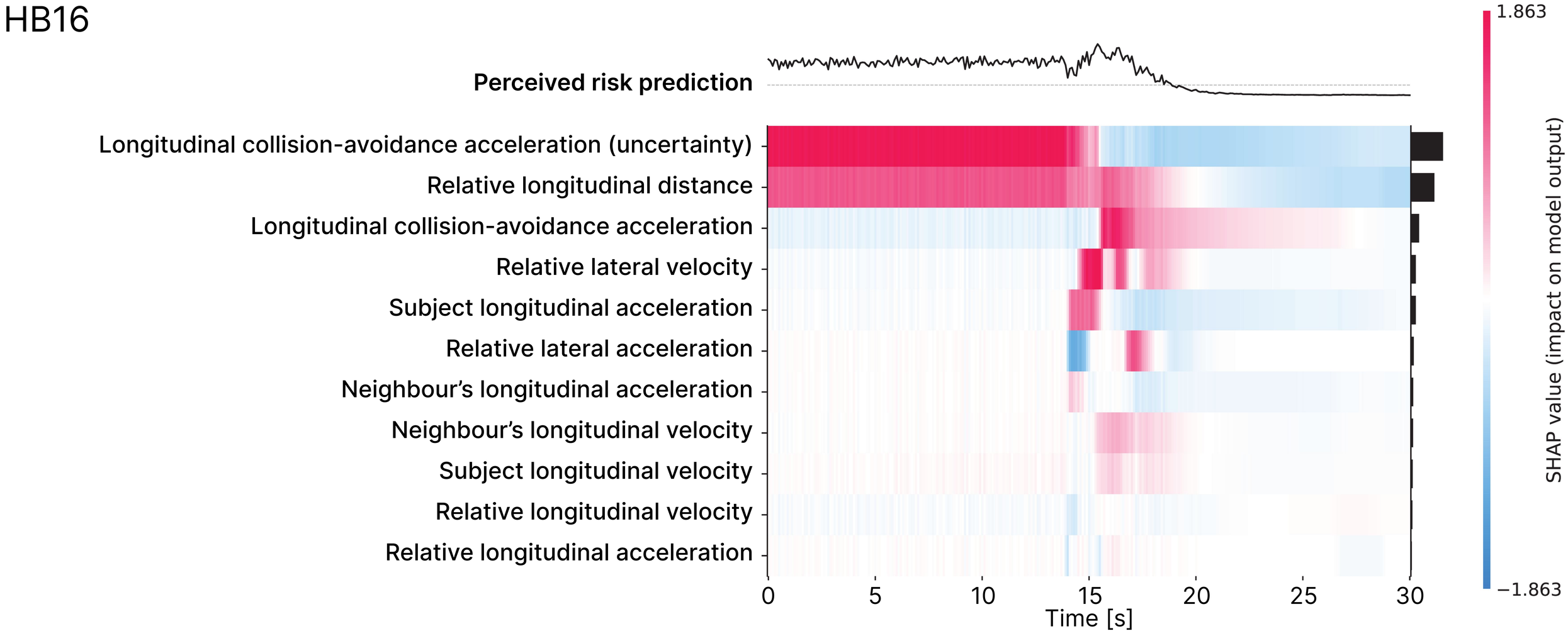

HB11
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative lateral acceleration
Relative longitudinal acceleration
0
5
10
15
20
25
30
0.472
−0.472
SHAP value (impact on model output)

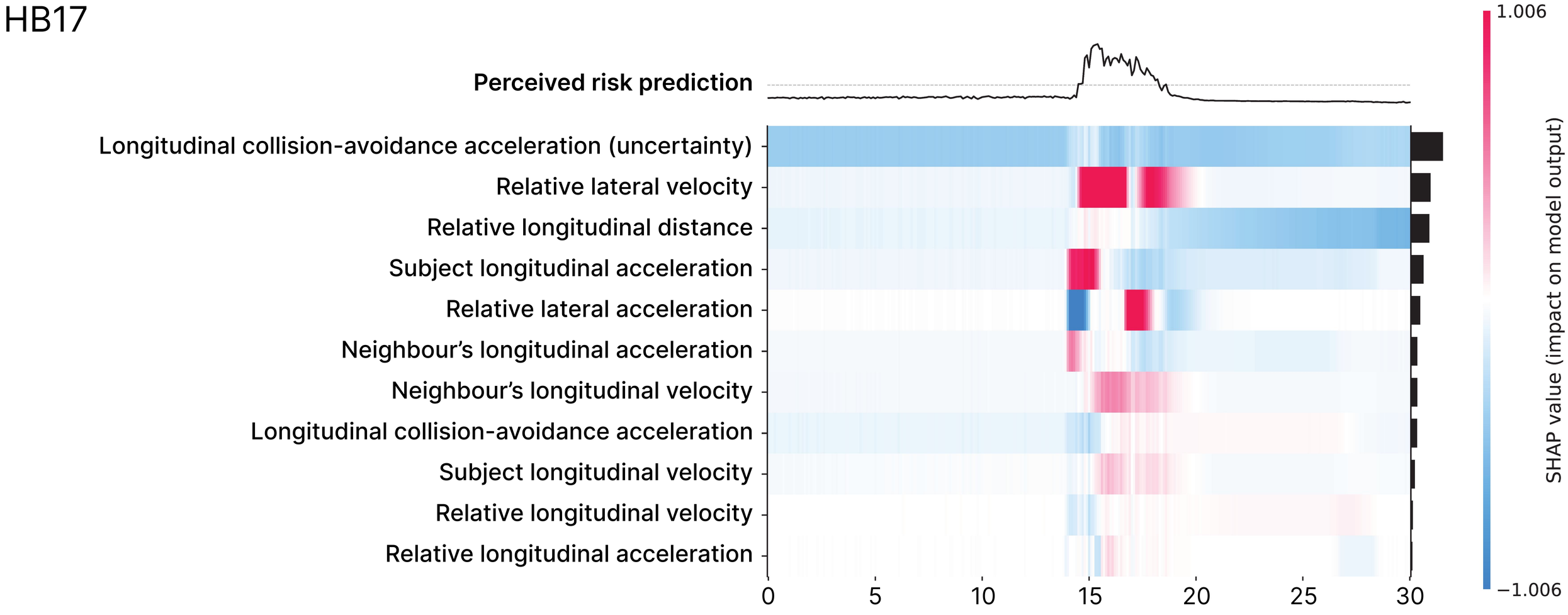

HB12
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
0.4937
−0.4937
SHAP value (impact on model output)

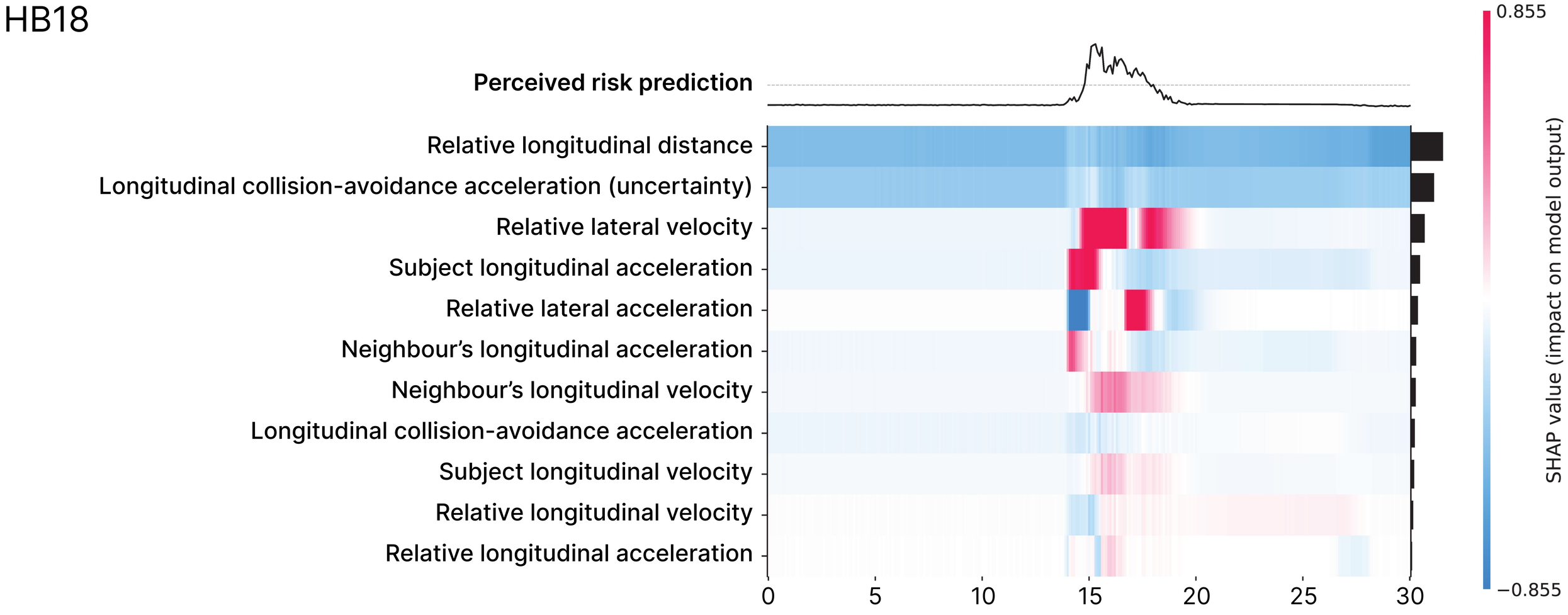

HB13
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative lateral acceleration
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.867
−1.867
SHAP value (impact on model output)

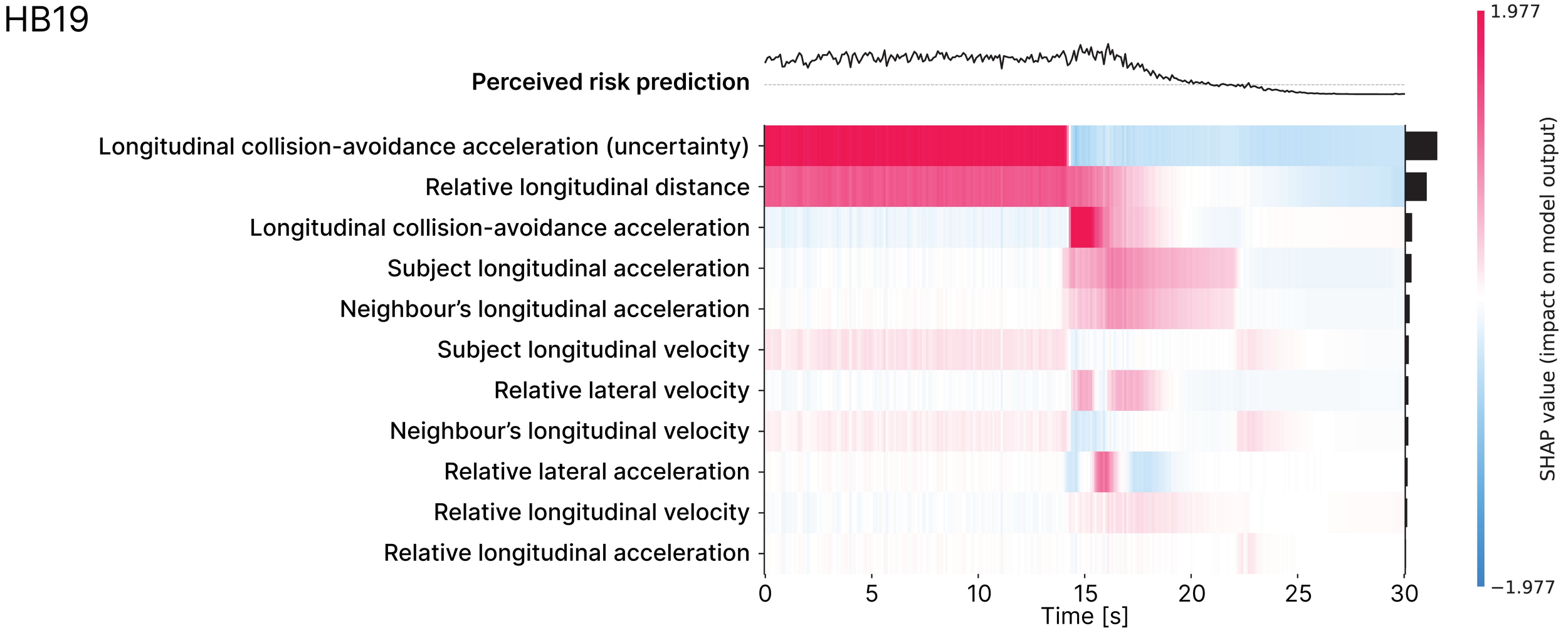

HB14
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
Time [s]
0.664
−0.664
SHAP value (impact on model output)

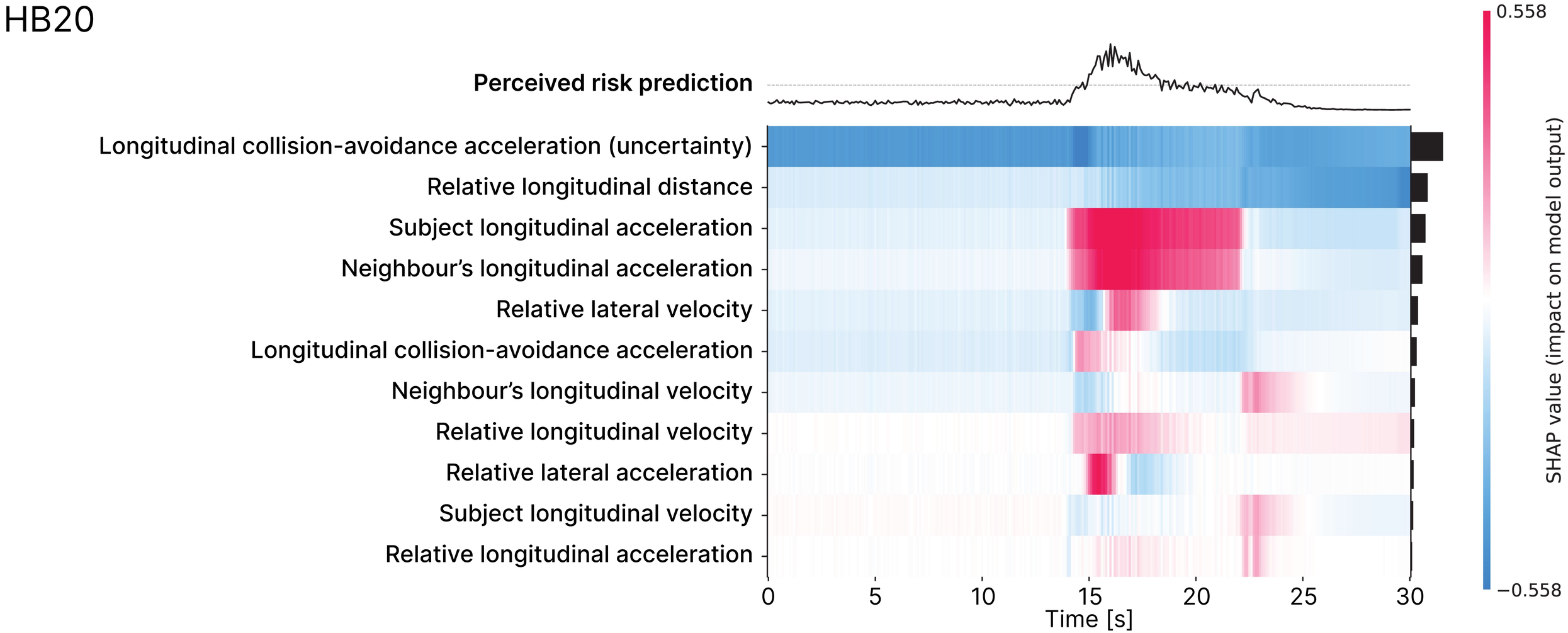

HB15
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
0.712
−0.712
SHAP value (impact on model output)


HB16
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.863
−1.863
SHAP value (impact on model output)

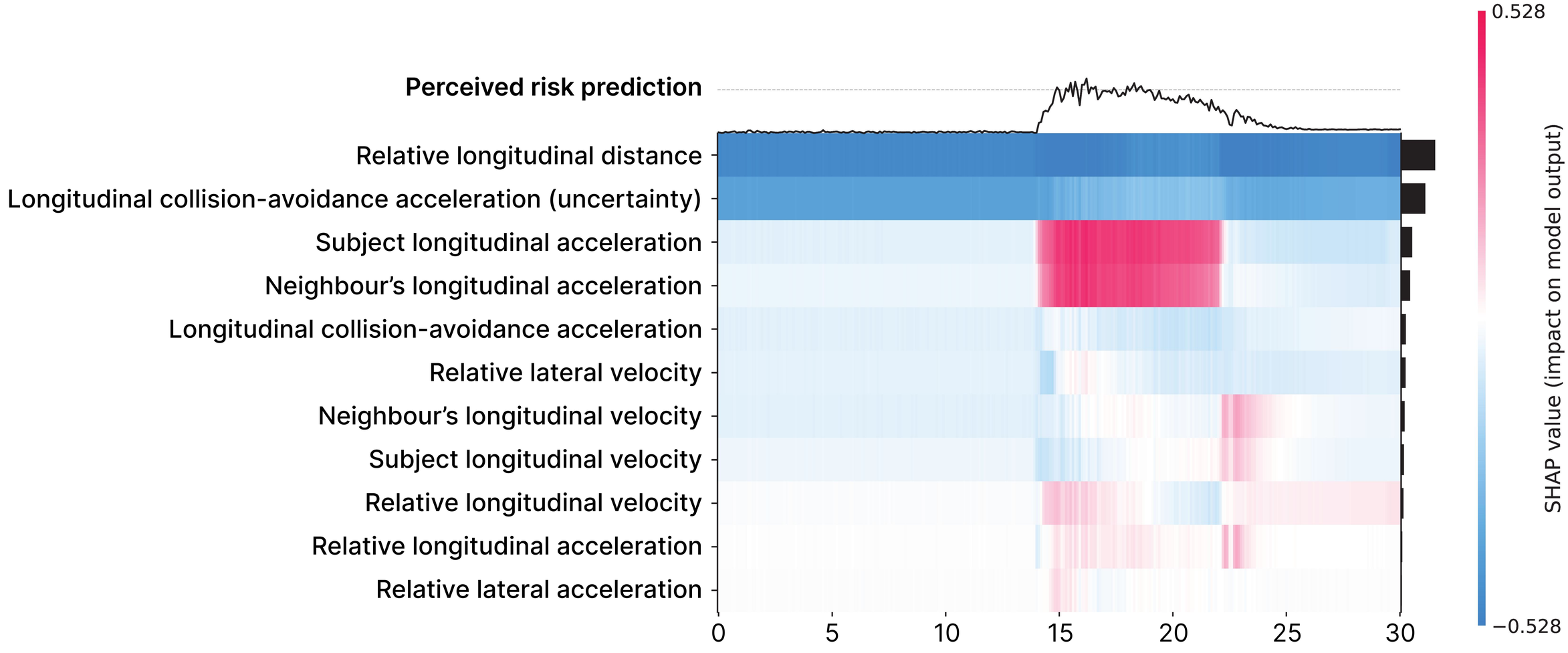

HB17
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Relative longitudinal distance
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
1.006
−1.006
SHAP value (impact on model output)

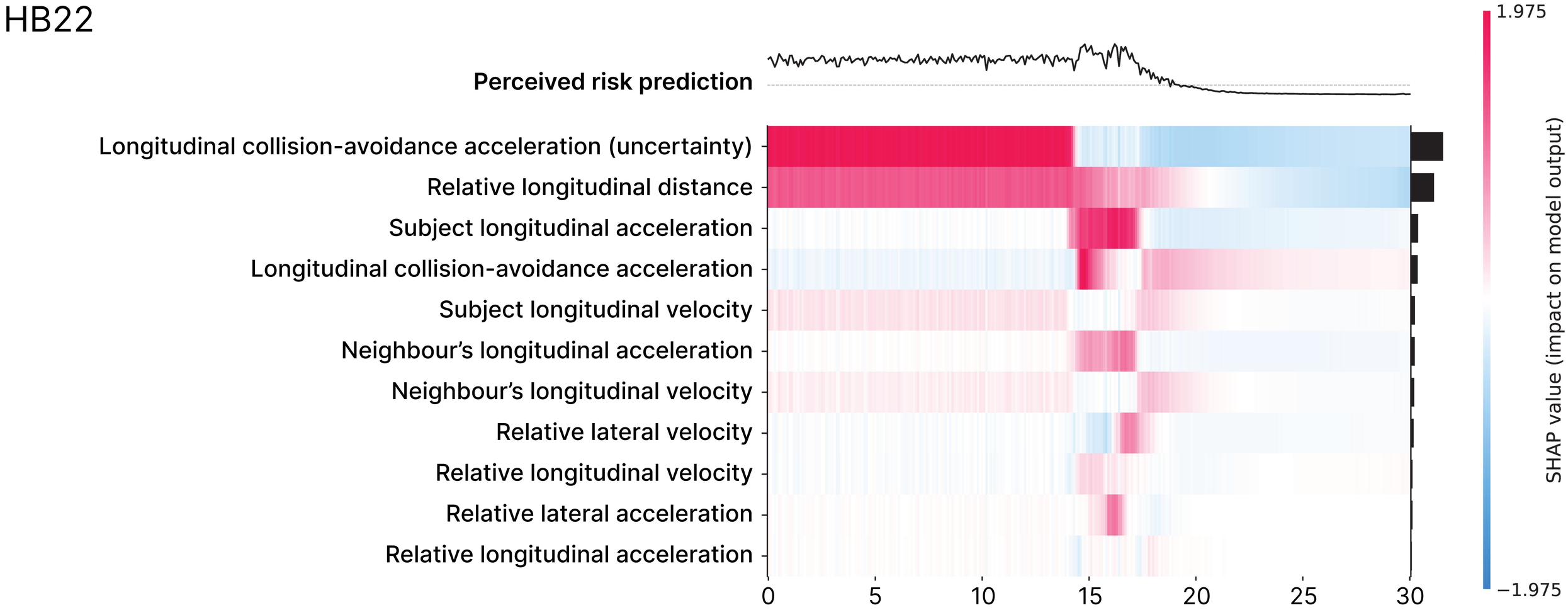

HB18
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
0.855
−0.855
SHAP value (impact on model output)

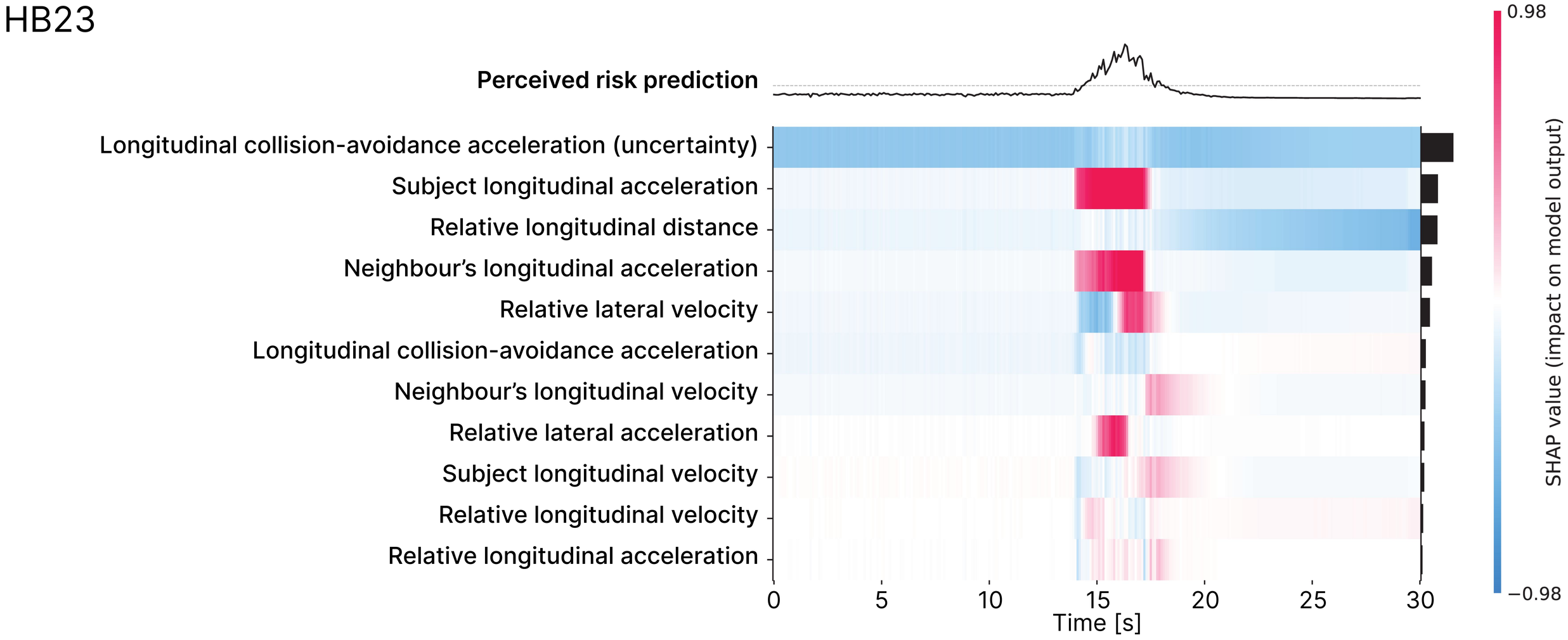

HB19
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Relative lateral velocity
Neighbour's longitudinal velocity
Relative lateral acceleration
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.977
−1.977
SHAP value (impact on model output)

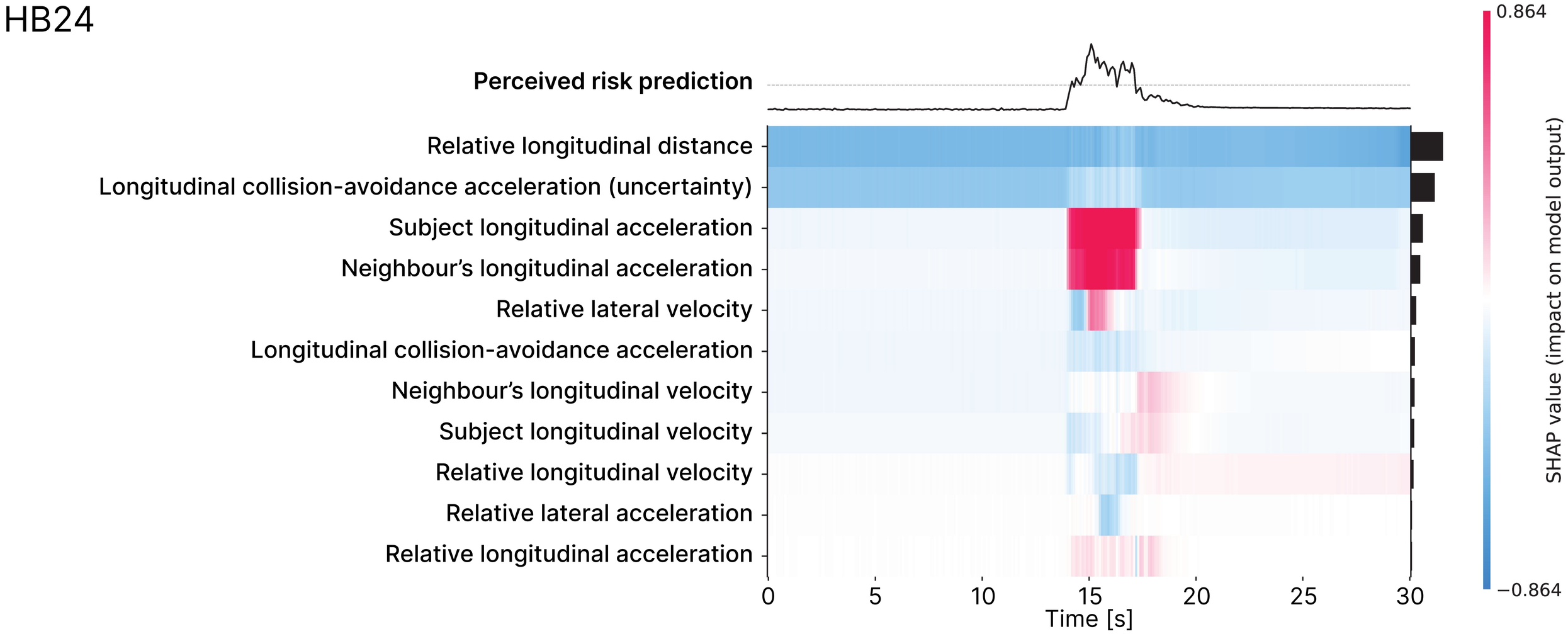

HB20
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Relative longitudinal velocity
Relative lateral acceleration
Subject longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
0.558
−0.558
SHAP value (impact on model output)

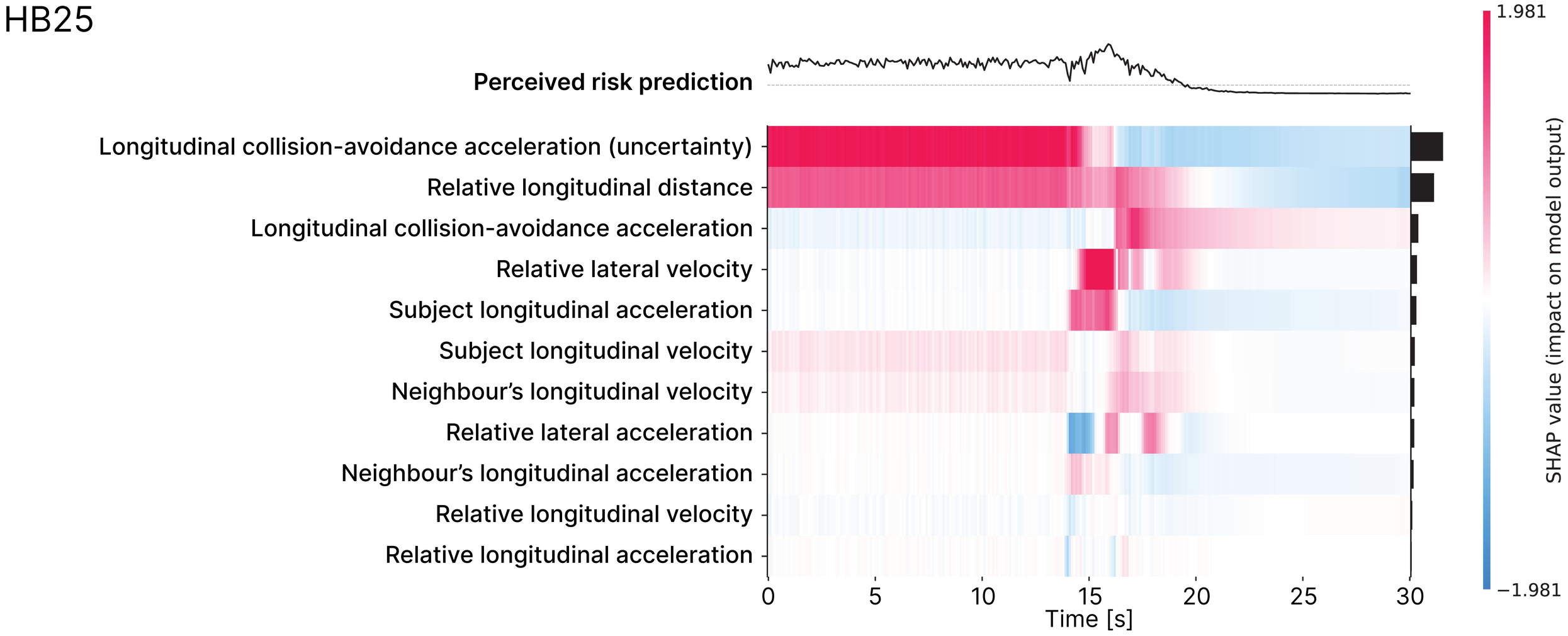
HB21

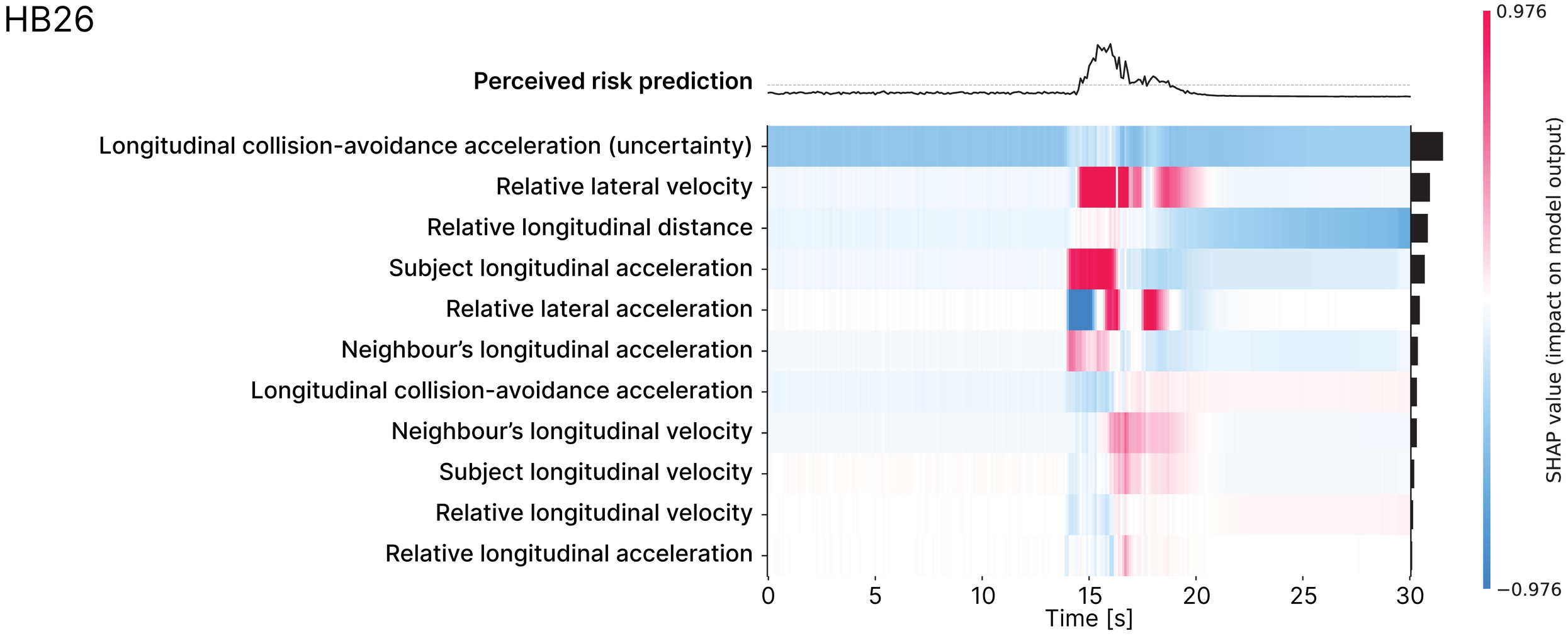

Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
0.528
−0.528
SHAP value (impact on model output)

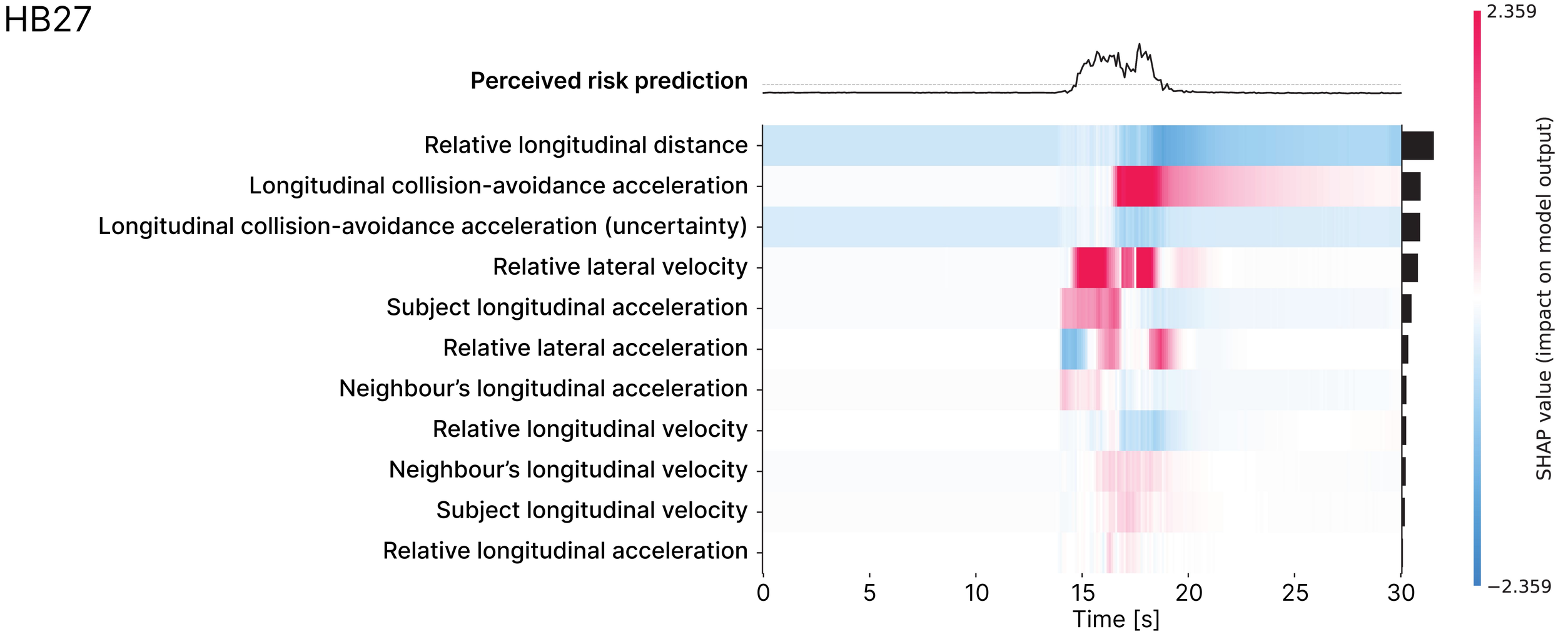

HB22
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Longitudinal collision-avoidance acceleration
Subject longitudinal velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal velocity
Relative lateral velocity
Relative longitudinal velocity
Relative lateral acceleration
Relative longitudinal acceleration
0
5
10
15
20
25
30
1.975
−1.975
SHAP value (impact on model output)

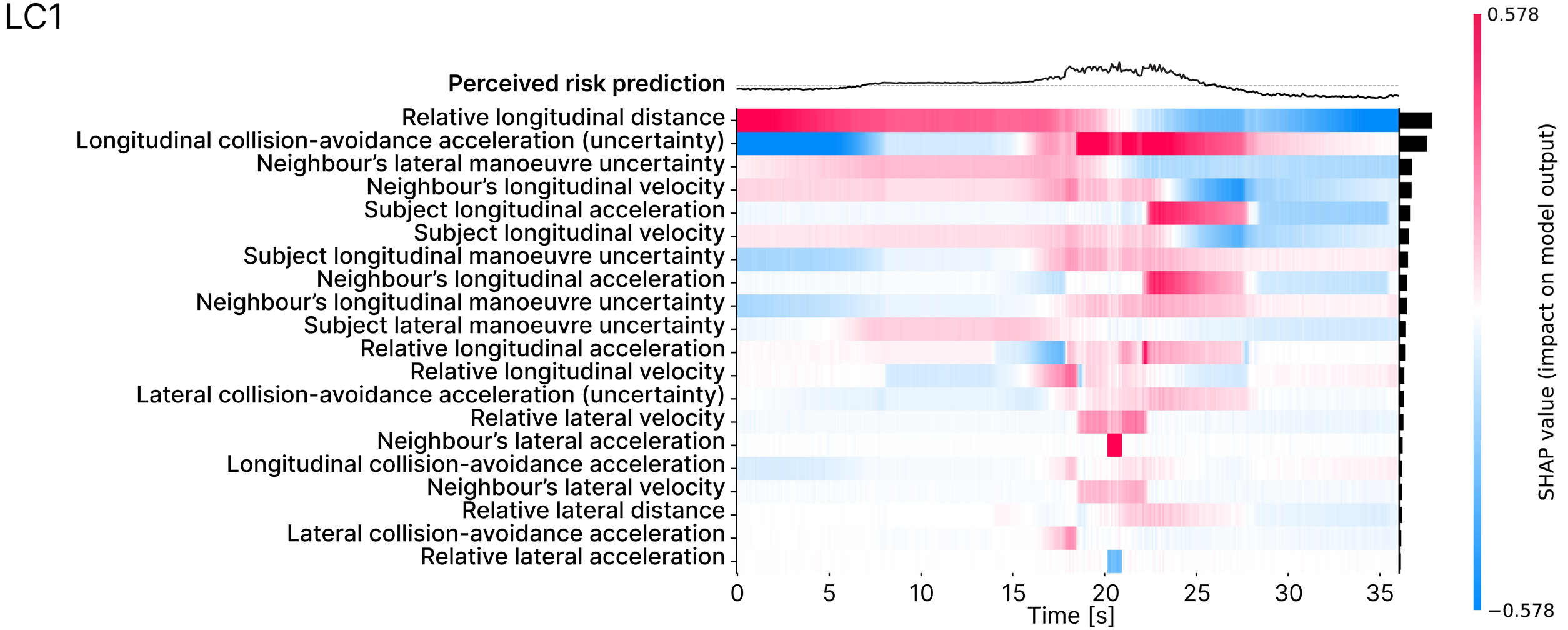

HB23
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Relative longitudinal distance
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Relative lateral acceleration
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
0.98
−0.98
SHAP value (impact on model output)

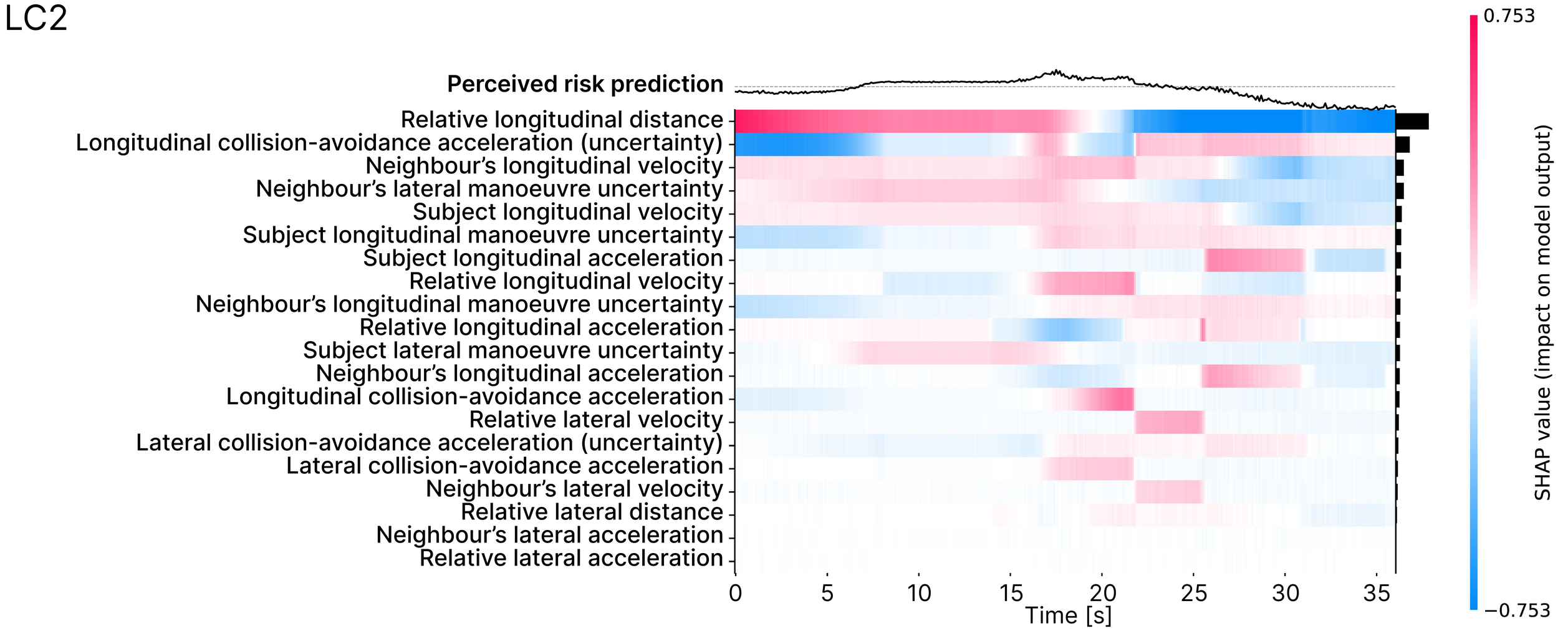

HB24
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative lateral acceleration
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
0.864
−0.864
SHAP value (impact on model output)

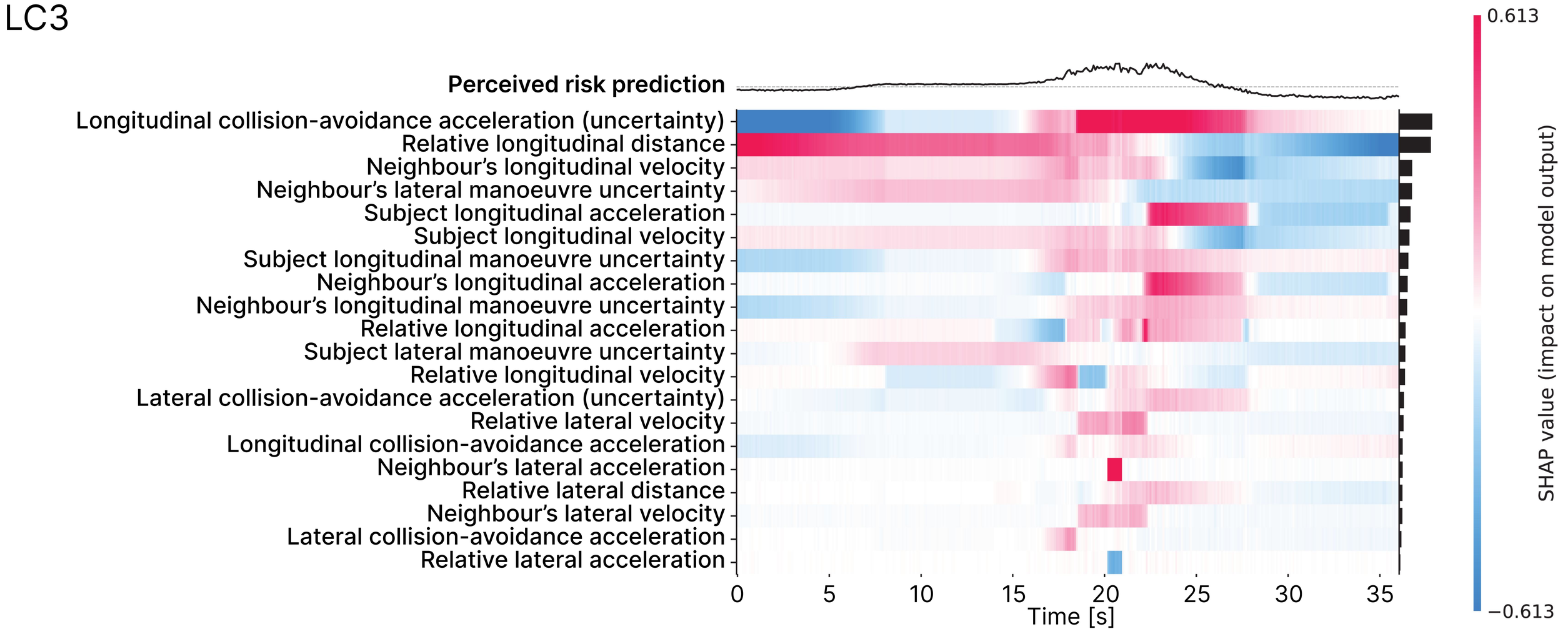

HB25
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Subject longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal velocity
Relative lateral acceleration
Neighbour's longitudinal acceleration
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
1.981
−1.981
SHAP value (impact on model output)


HB26
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Relative longitudinal distance
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
0.976
−0.976
SHAP value (impact on model output)

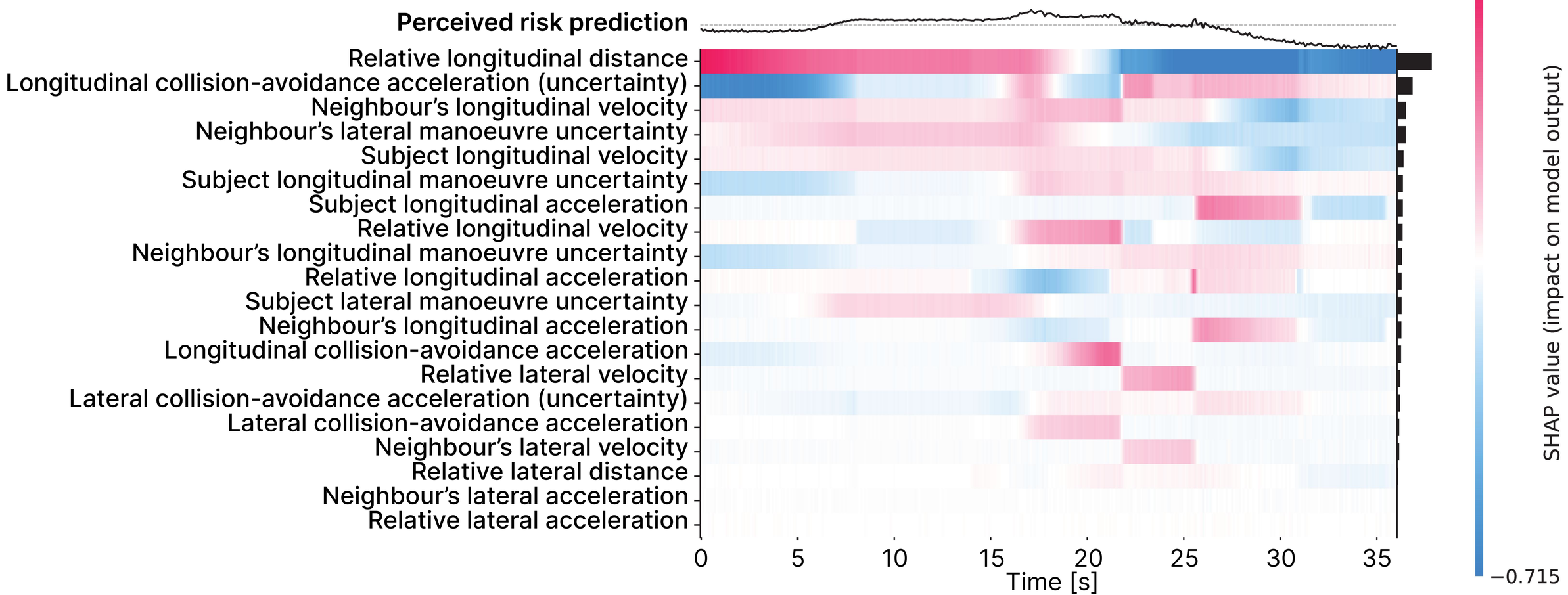

HB27
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Subject longitudinal acceleration
Relative lateral acceleration
Neighbour's longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal velocity
Subject longitudinal velocity
Relative longitudinal acceleration
0
5
10
15
20
25
30
Time [s]
2.359
−2.359
SHAP value (impact on model output)

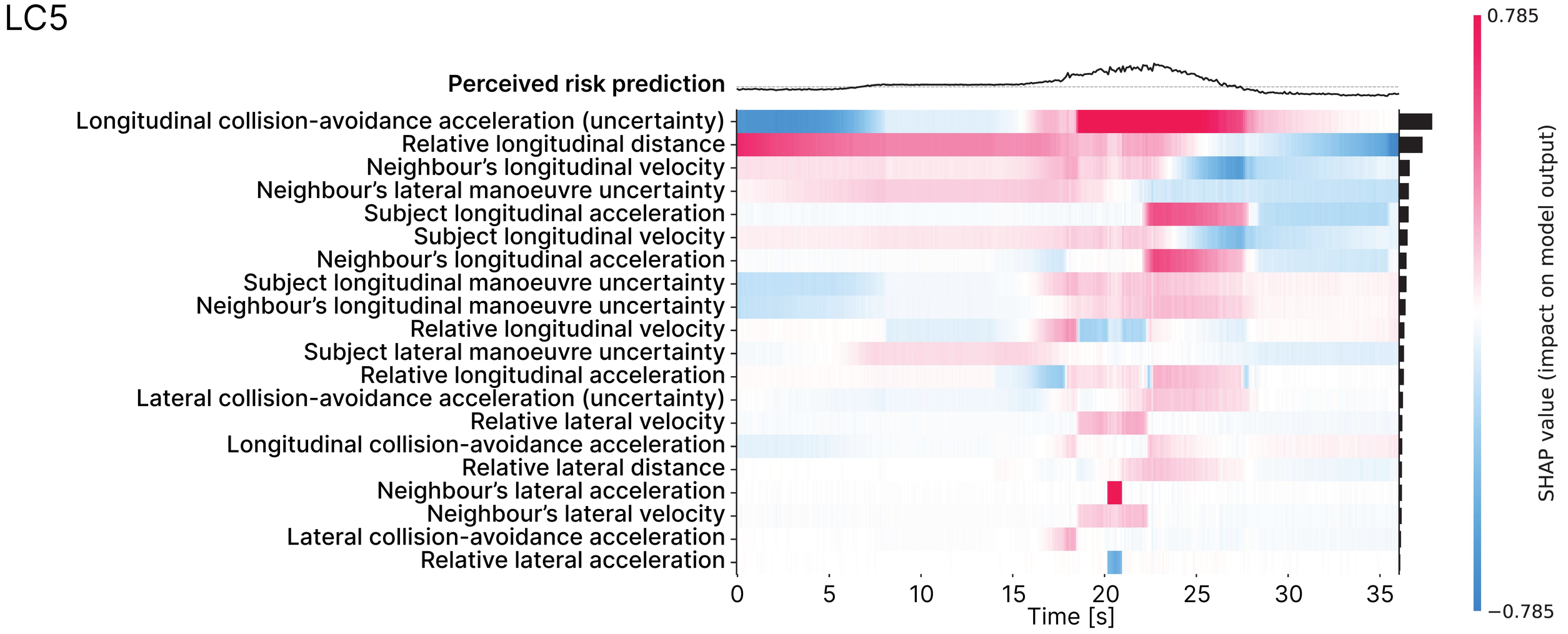

LC1
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Subject longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Relative longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Neighbour's lateral acceleration
Longitudinal collision-avoidance acceleration
Neighbour's lateral velocity
Relative lateral distance
Lateral collision-avoidance acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.578
−0.578
SHAP value (impact on model output)

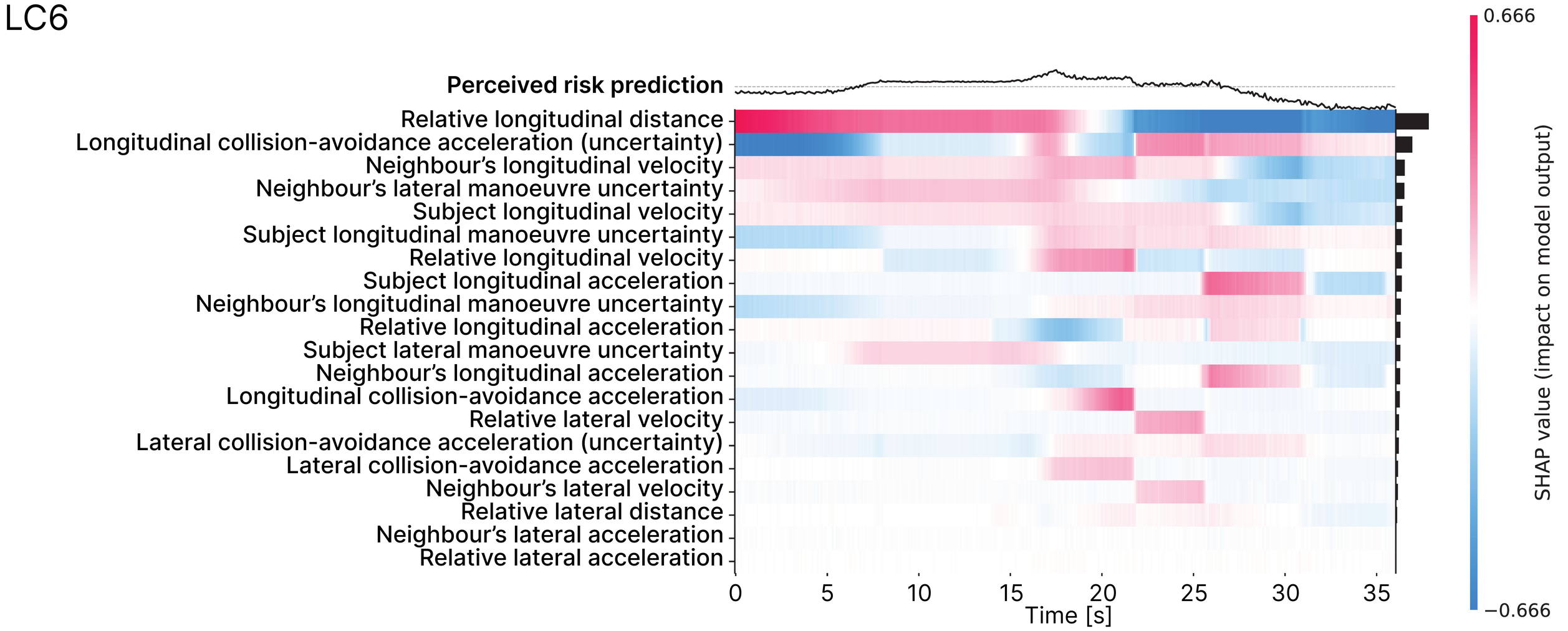

LC2
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Subject longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.753
−0.753
SHAP value (impact on model output)


LC3
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Neighbour's longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Relative longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Neighbour's lateral acceleration
Relative lateral distance
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.613
−0.613
SHAP value (impact on model output)

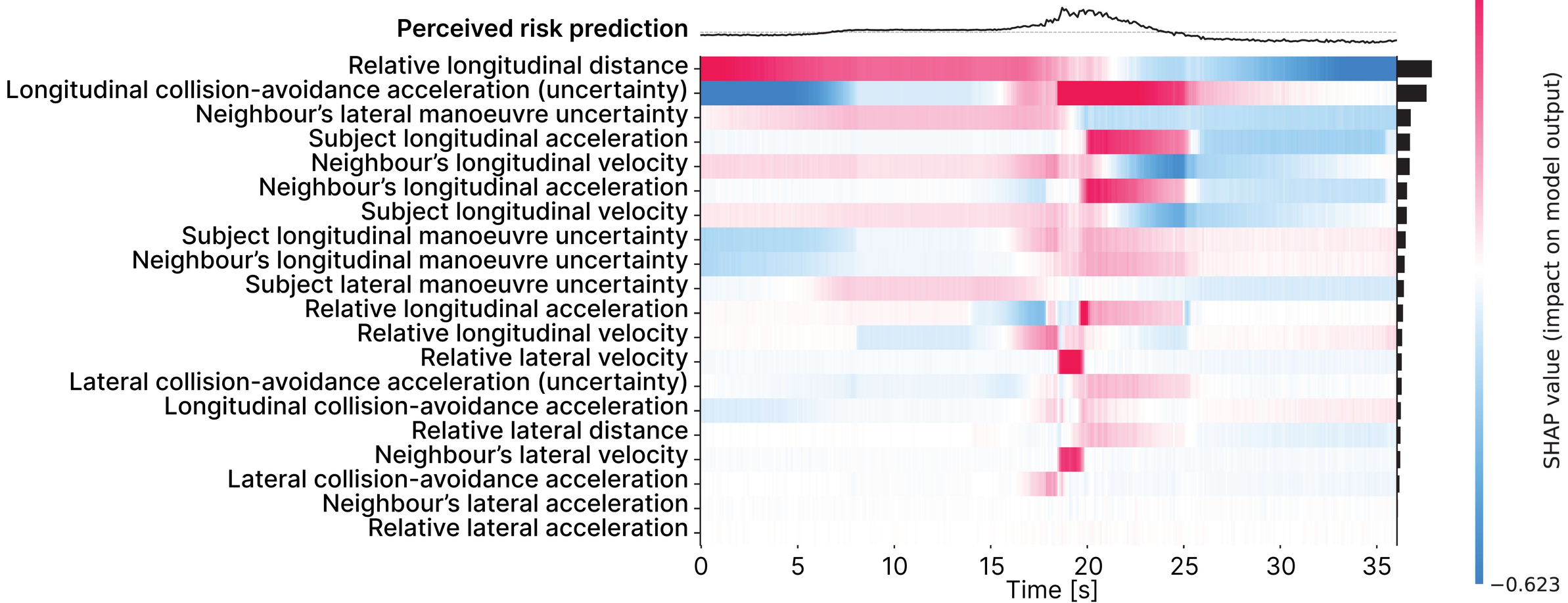
LC4


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Subject longitudinal acceleration
Relative longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.715
−0.715
SHAP value (impact on model output)

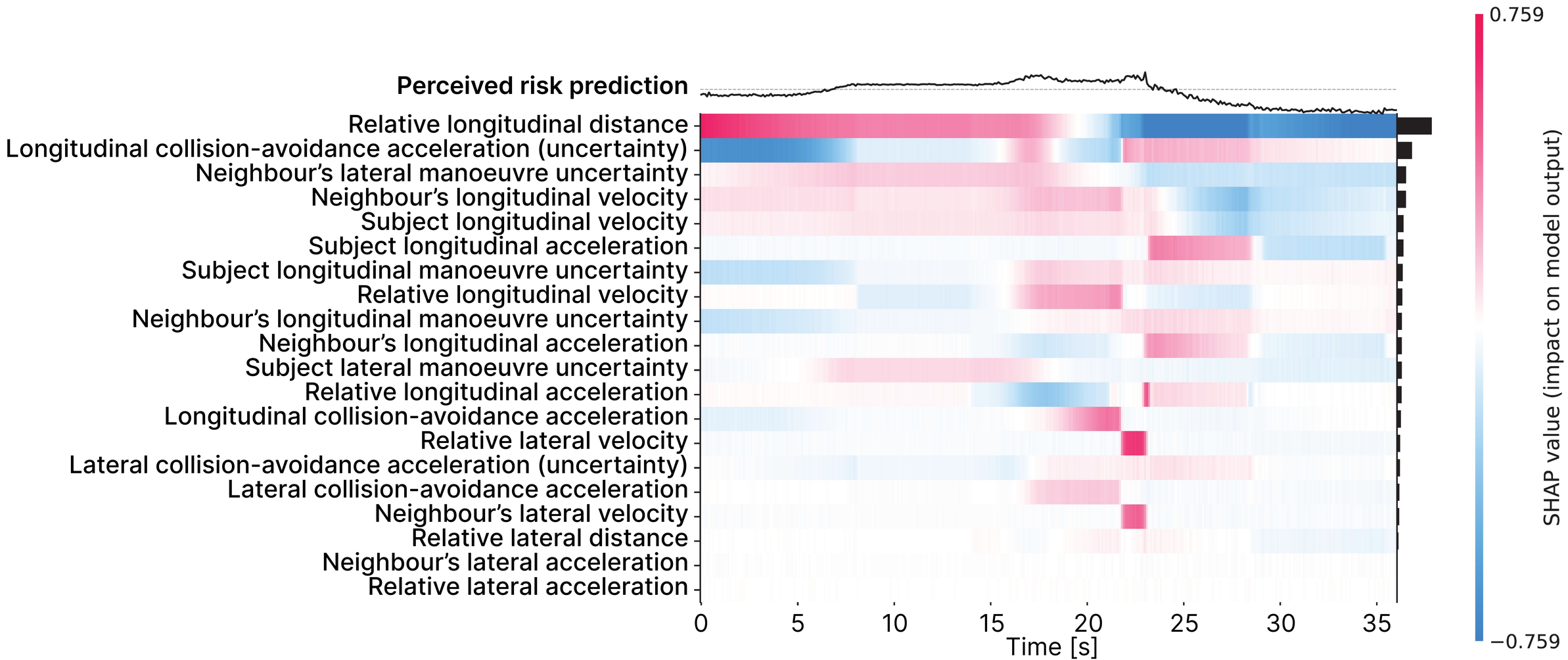

LC5
Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Neighbour's longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Subject longitudinal velocity
Neighbour's longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Relative lateral distance
Neighbour's lateral acceleration
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.785
−0.785
SHAP value (impact on model output)


LC6
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Subject longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.666
−0.666
SHAP value (impact on model output)

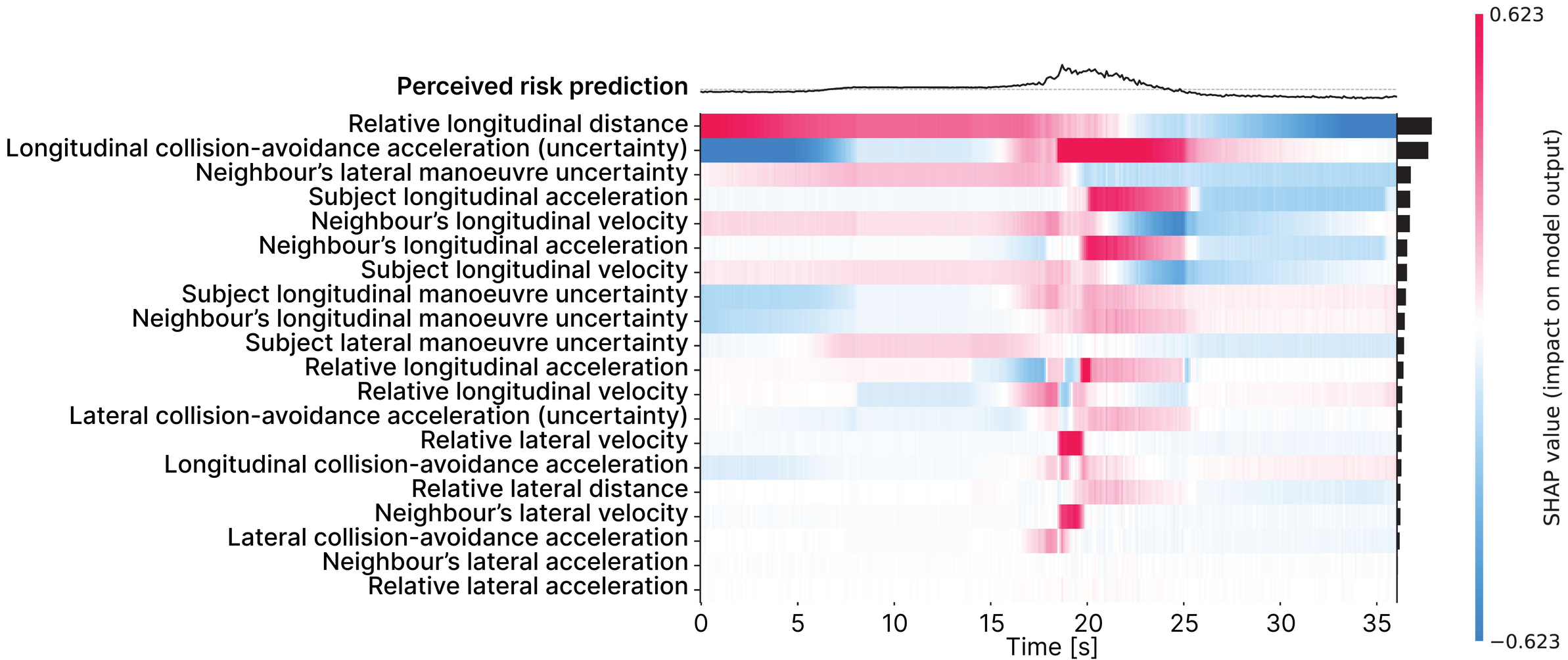
LC7


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Relative longitudinal velocity
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Relative lateral distance
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.623
−0.623
SHAP value (impact on model output)

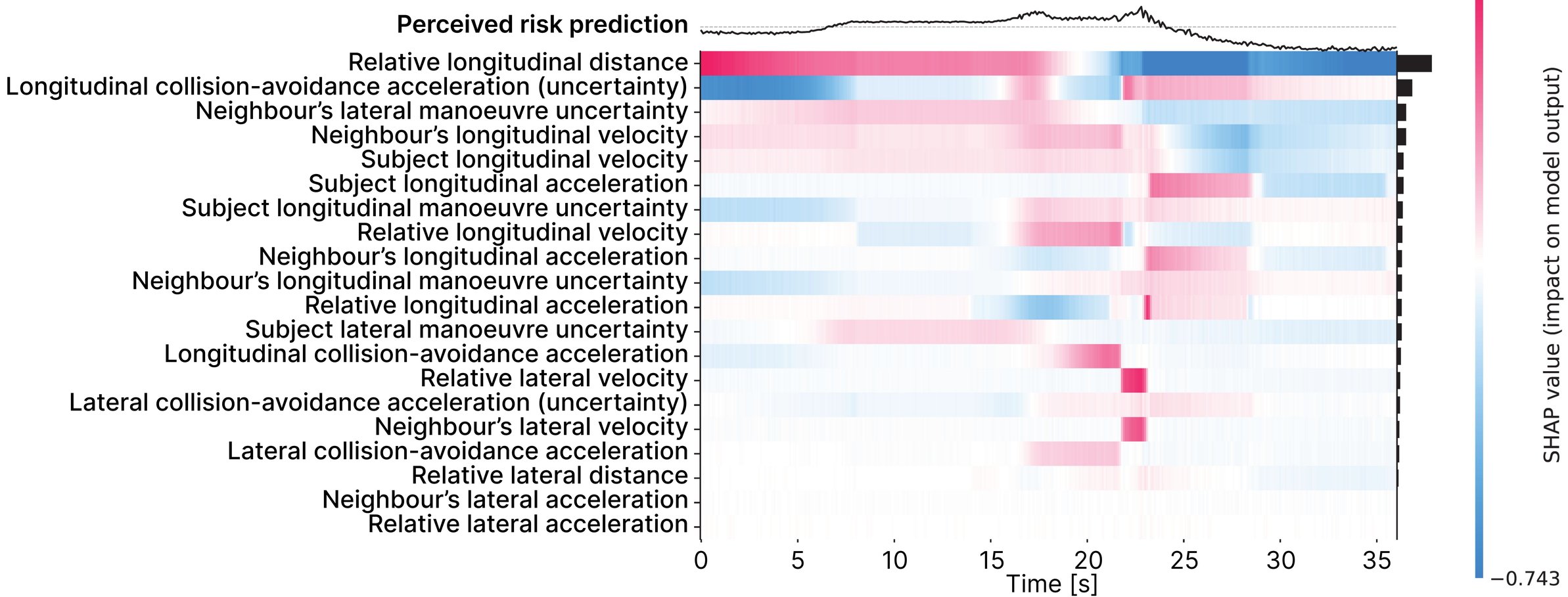
LC8


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Subject longitudinal velocity
Subject longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Lateral collision-avoidance acceleration
Neighbour's lateral velocity
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.759
−0.759
SHAP value (impact on model output)

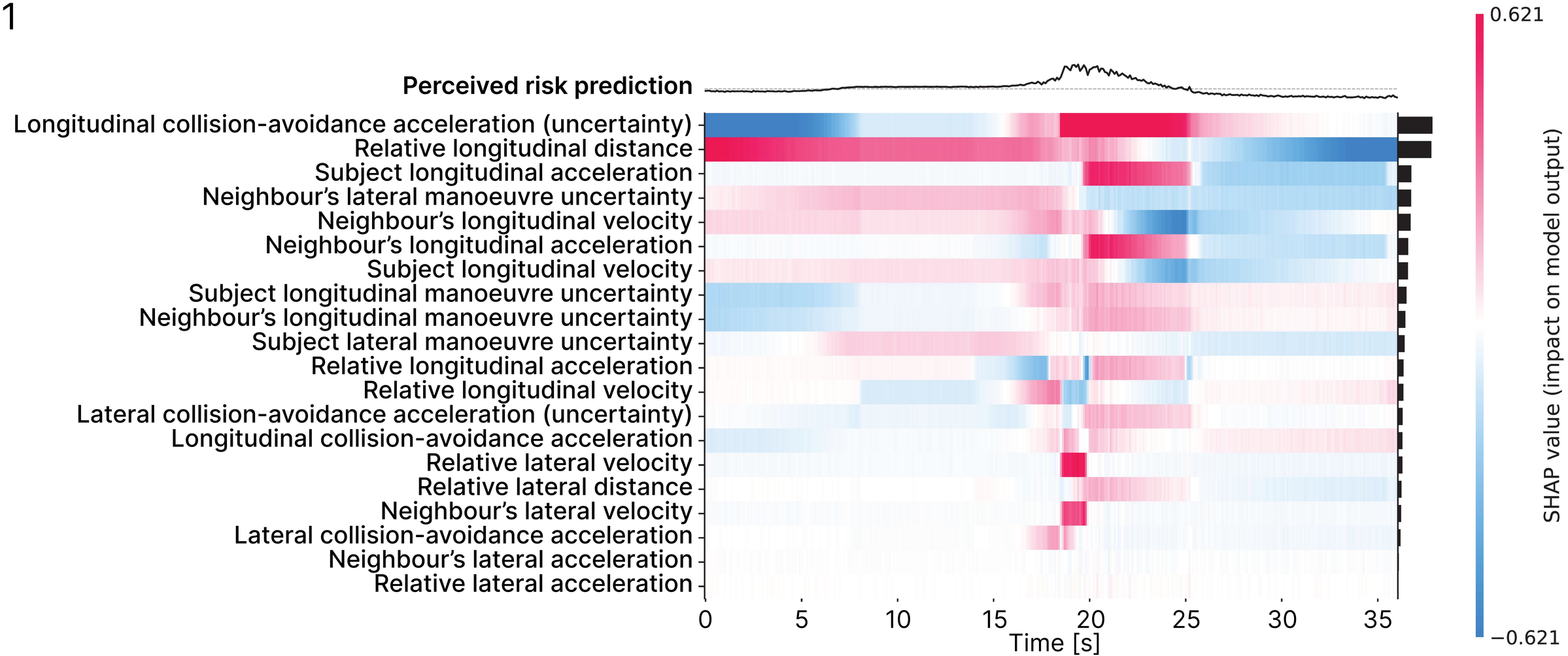
LC9


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Relative longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral velocity
Longitudinal collision-avoidance acceleration
Relative lateral distance
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.623
−0.623
SHAP value (impact on model output)

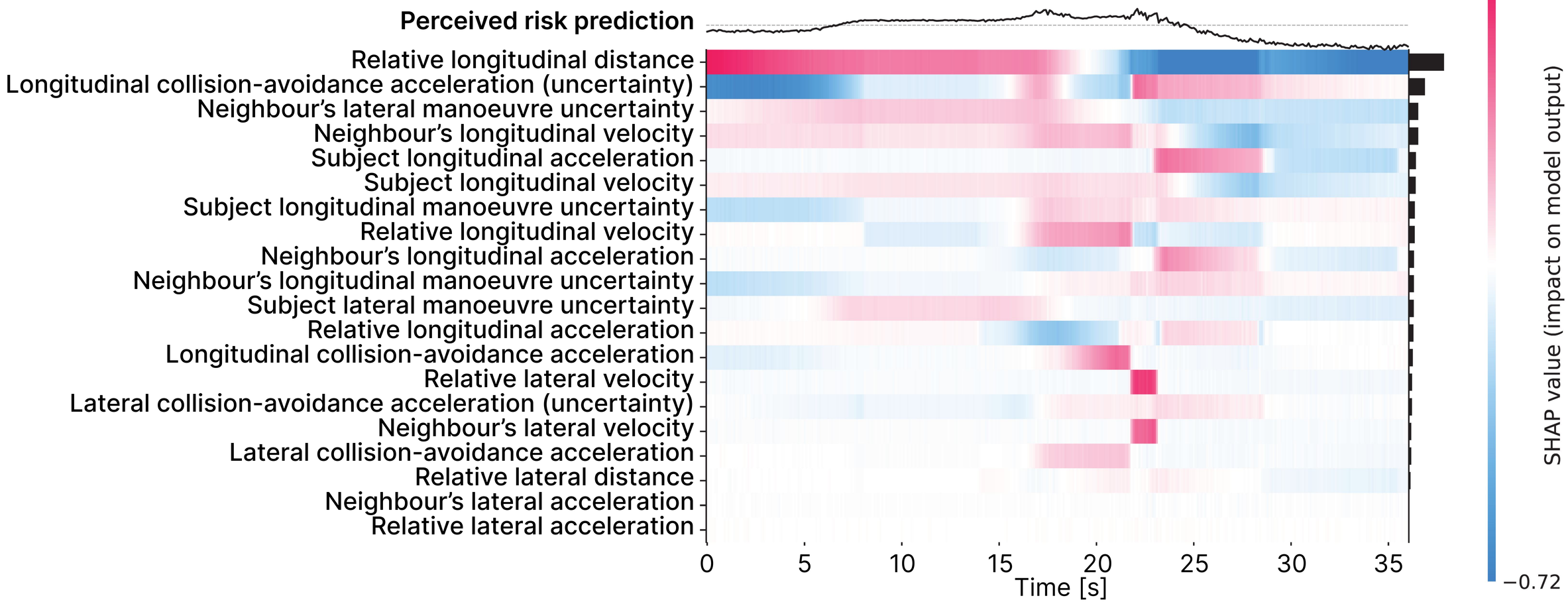
LC10


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Subject longitudinal velocity
Subject longitudinal acceleration
Subject longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.743
−0.743
SHAP value (impact on model output)

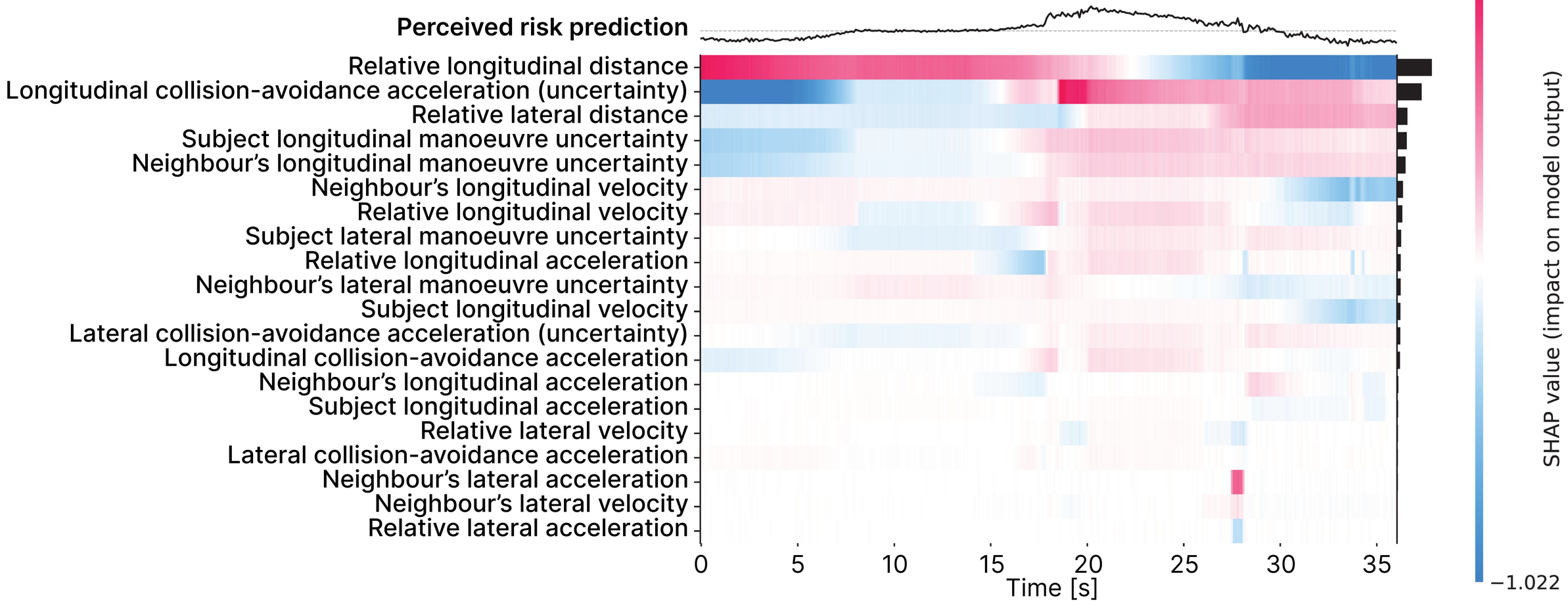
LC11


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Neighbour's longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Relative longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Relative lateral distance
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.621
−0.621
SHAP value (impact on model output)

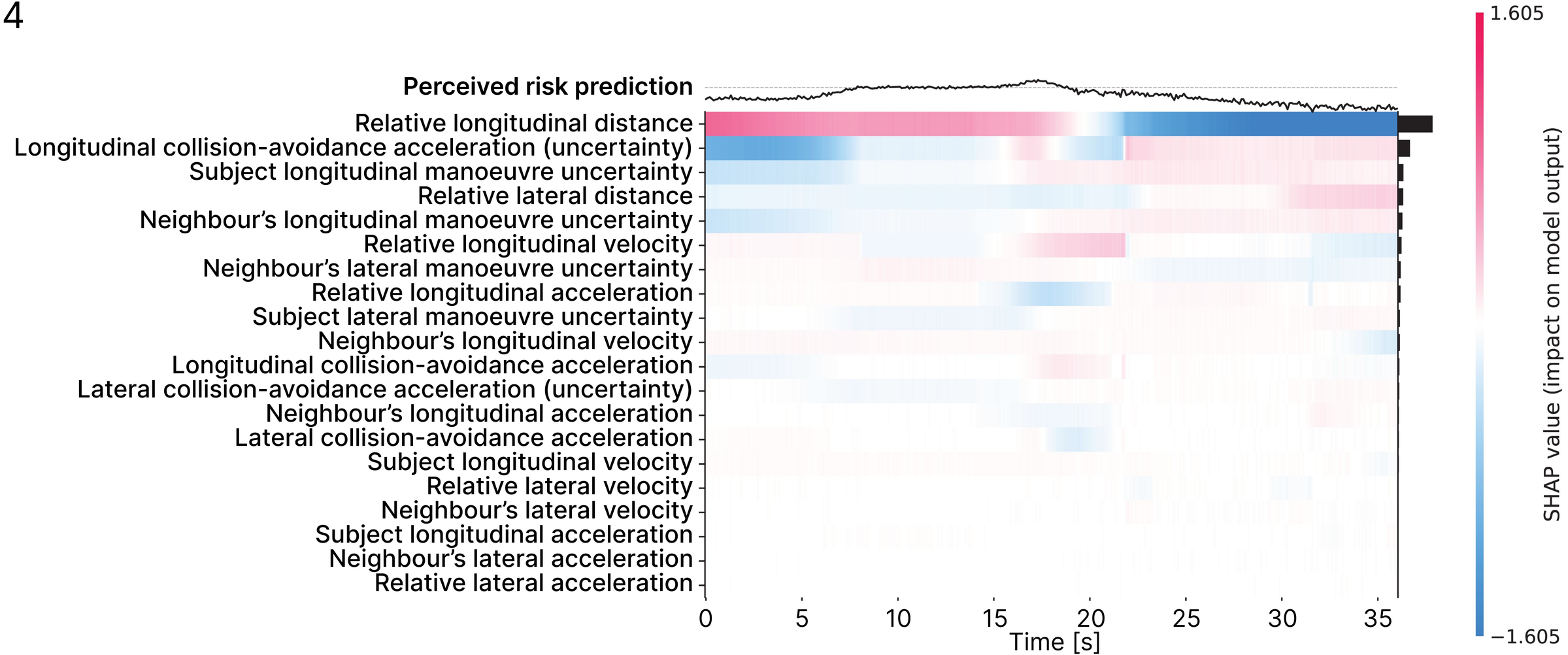
LC12

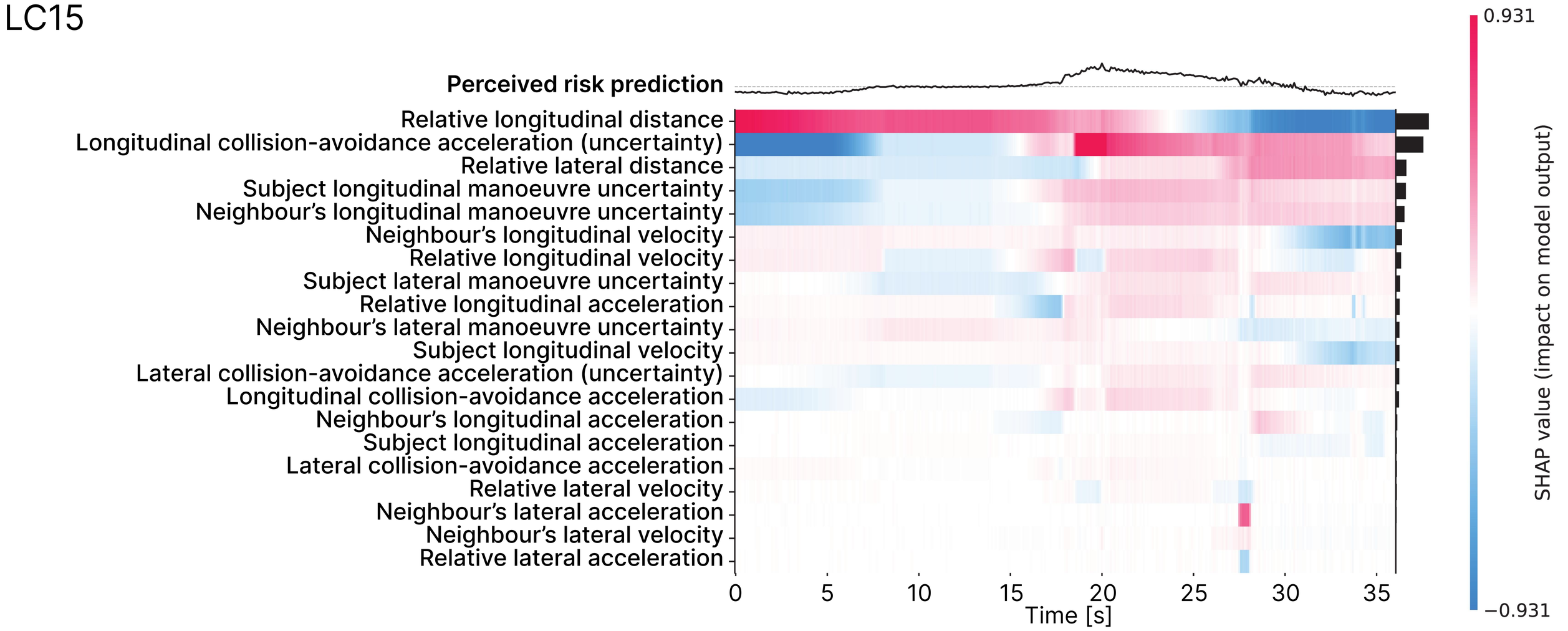

Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Subject longitudinal acceleration
Subject longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Neighbour's longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Longitudinal collision-avoidance acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's lateral velocity
Lateral collision-avoidance acceleration
Relative lateral distance
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.72
−0.72
SHAP value (impact on model output)

LC13

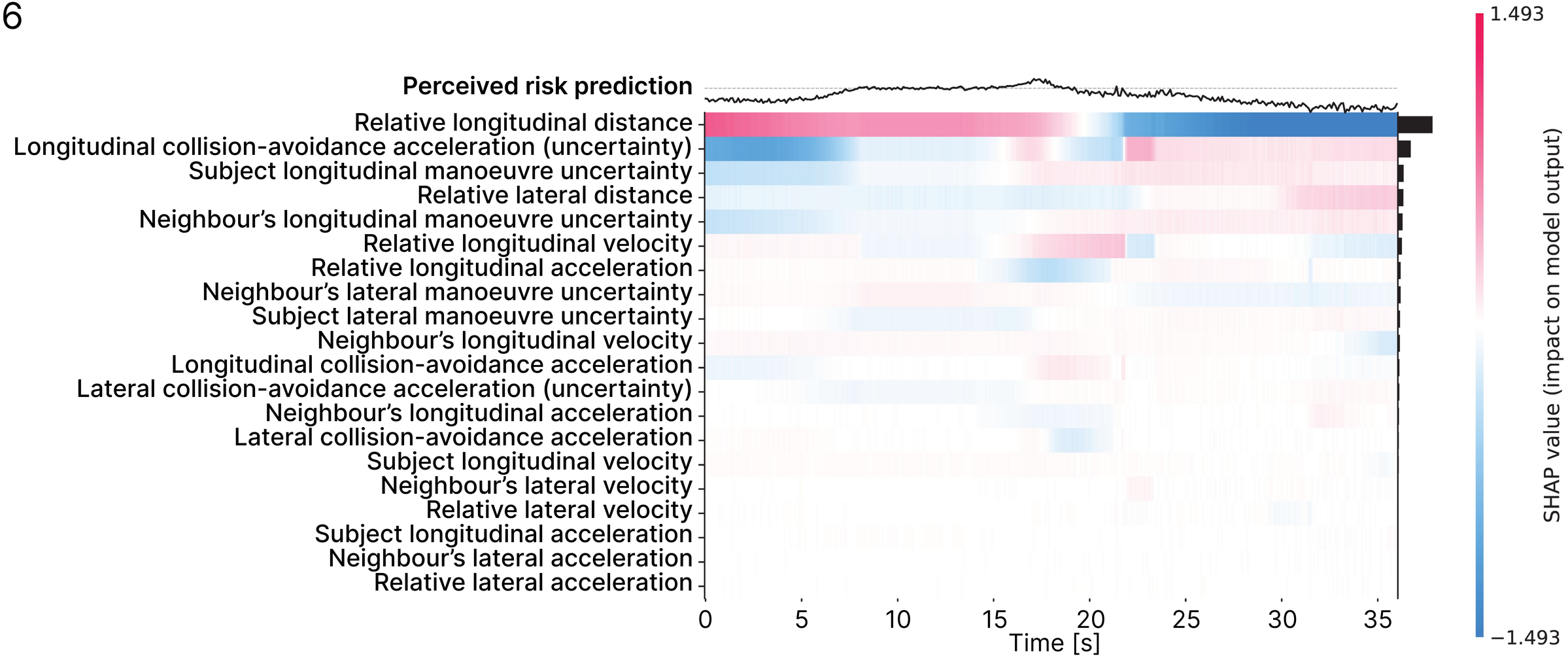

Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral distance
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal acceleration
Subject longitudinal acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Neighbour's lateral velocity
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
1.022
−1.022
SHAP value (impact on model output)

LC14

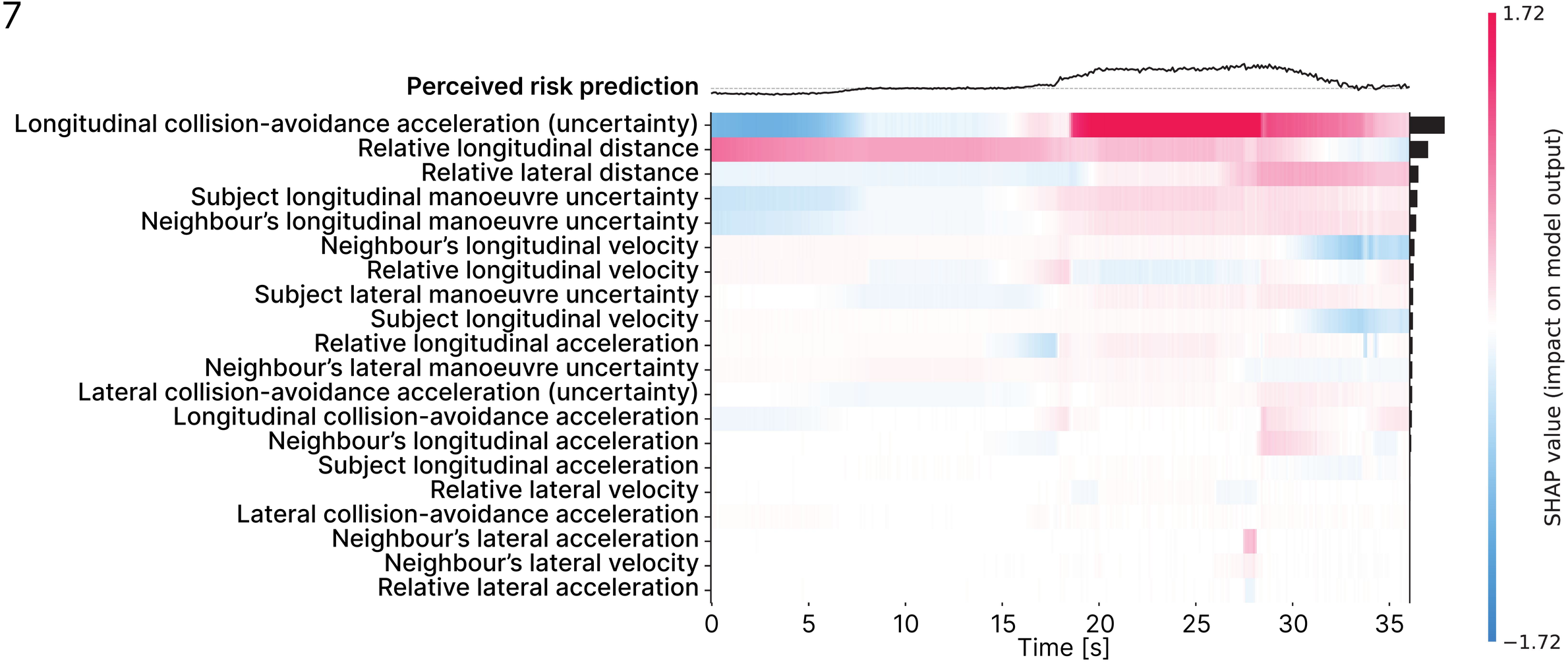

Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Relative lateral distance
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Neighbour's lateral manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal acceleration
Lateral collision-avoidance acceleration
Subject longitudinal velocity
Relative lateral velocity
Neighbour's lateral velocity
Subject longitudinal acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
1.605
−1.605
SHAP value (impact on model output)


LC15
Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral distance
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral manoeuvre uncertainty
Relative longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Subject longitudinal velocity
Lateral collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal acceleration
Subject longitudinal acceleration
Lateral collision-avoidance acceleration
Relative lateral velocity
Neighbour's lateral acceleration
Neighbour's lateral velocity
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
0.931
−0.931
SHAP value (impact on model output)

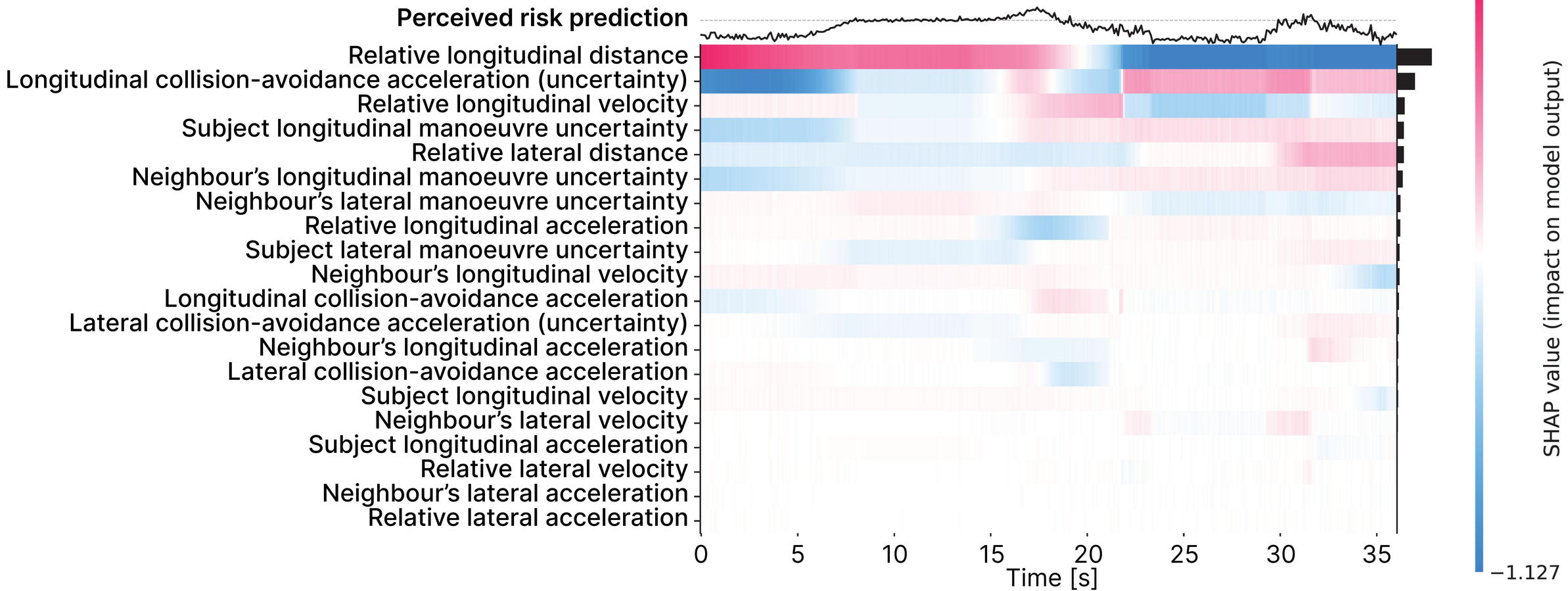
LC16


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Relative lateral distance
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal velocity
Relative longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal acceleration
Lateral collision-avoidance acceleration
Subject longitudinal velocity
Neighbour's lateral velocity
Relative lateral velocity
Subject longitudinal acceleration
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
1.493
−1.493
SHAP value (impact on model output)

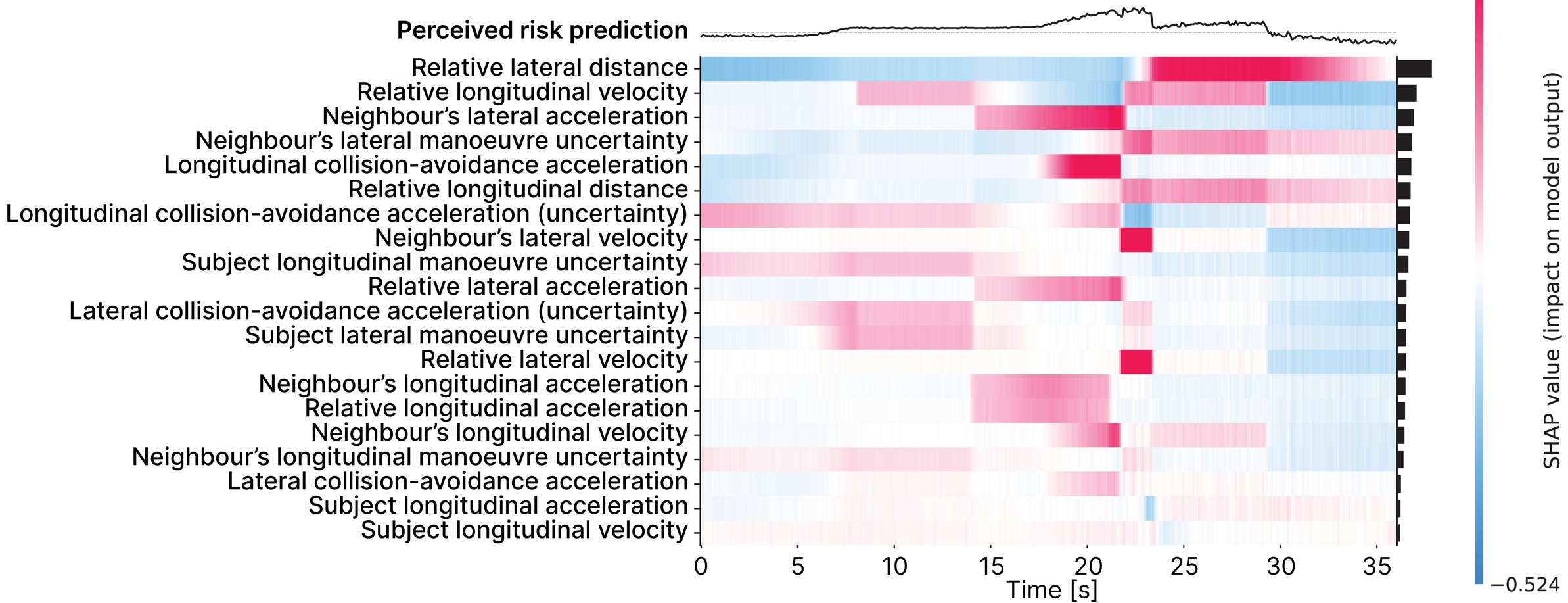
LC17


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal distance
Relative lateral distance
Subject longitudinal manoeuvre uncertainty
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal velocity
Subject lateral manoeuvre uncertainty
Subject longitudinal velocity
Relative longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty
Lateral collision-avoidance acceleration (uncertainty)
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal acceleration
Subject longitudinal acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration
Neighbour's lateral acceleration
Neighbour's lateral velocity
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
1.72
−1.72
SHAP value (impact on model output)

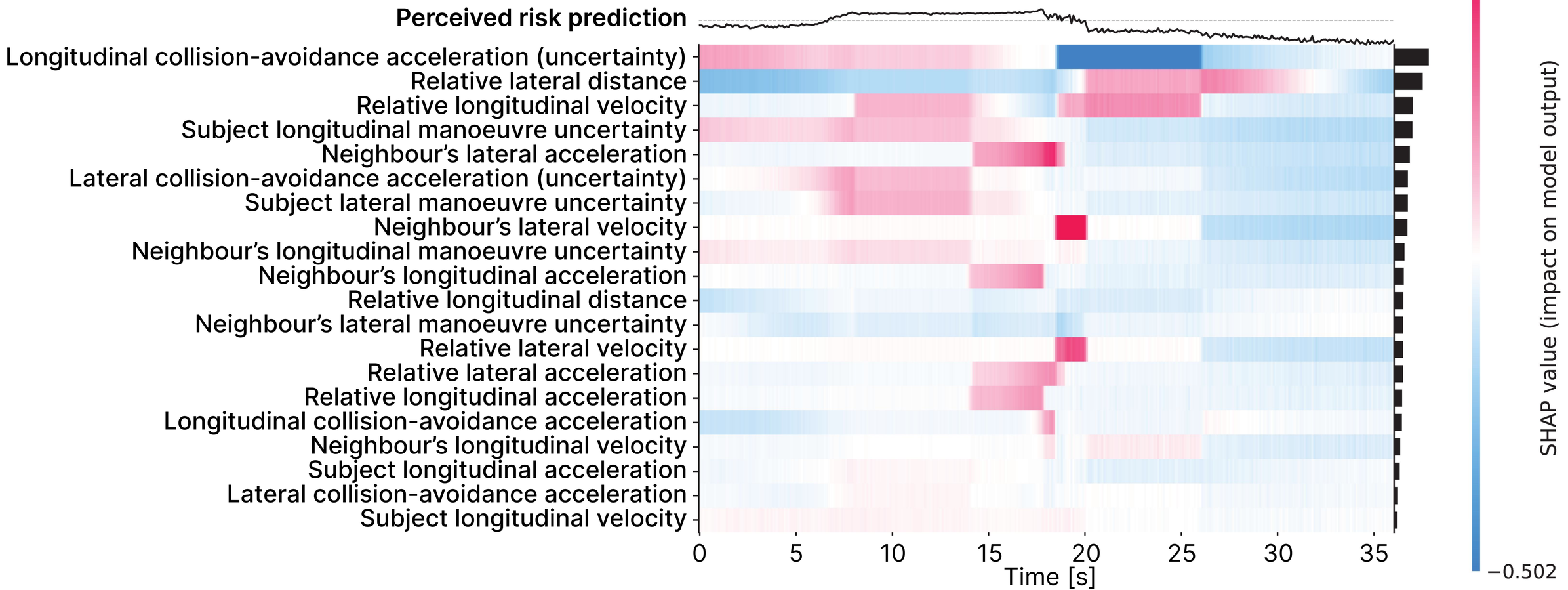
LC18


Perceived risk prediction
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Relative longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Relative lateral distance
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's lateral manoeuvre uncertainty
Relative longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Longitudinal collision-avoidance acceleration
Lateral collision-avoidance acceleration (uncertainty)
Neighbour's longitudinal acceleration
Lateral collision-avoidance acceleration
Subject longitudinal velocity
Neighbour's lateral velocity
Subject longitudinal acceleration
Relative lateral velocity
Neighbour's lateral acceleration
Relative lateral acceleration
0
5
10
15
20
25
30
35
Time [s]
1.127
−1.127
SHAP value (impact on model output)

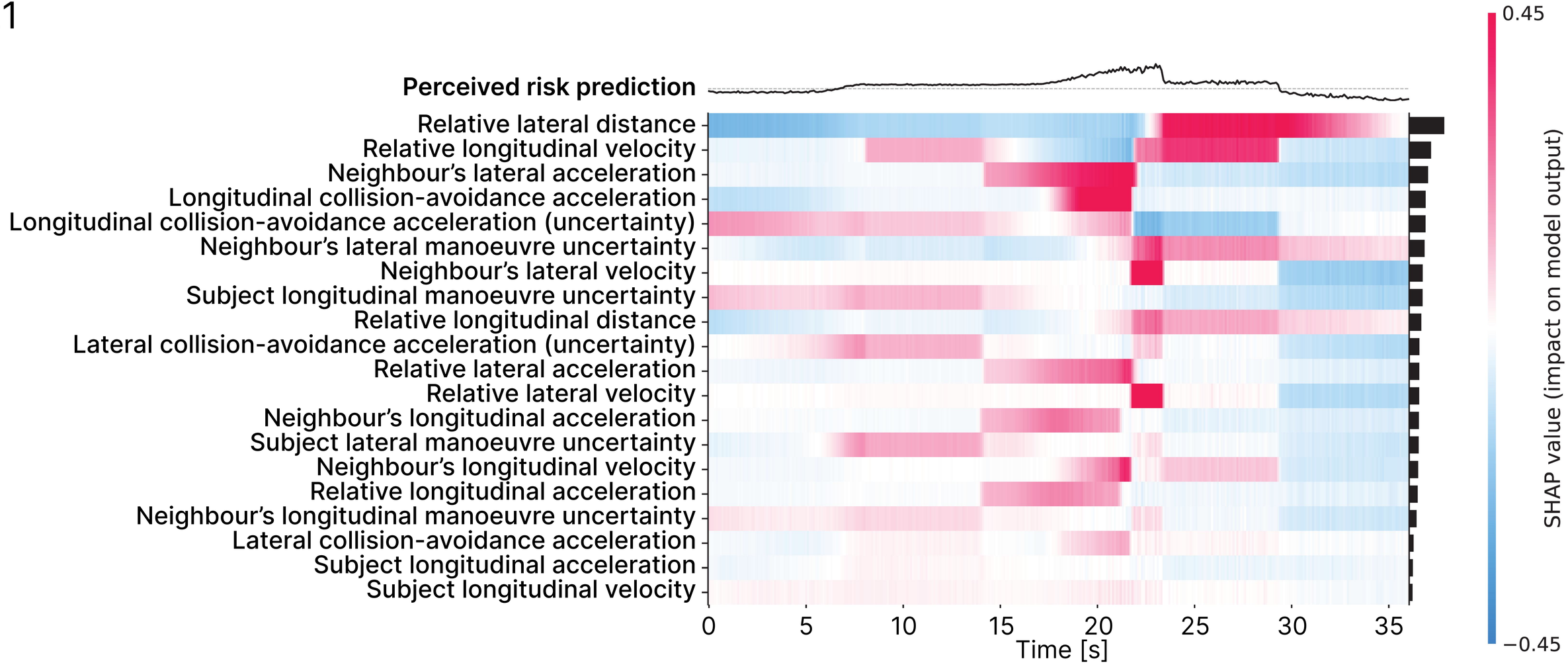
LC19


Perceived risk prediction
Relative lateral distance
Relative longitudinal velocity
Neighbour's lateral acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral velocity
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Relative lateral velocity
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Subject longitudinal acceleration
Subject longitudinal velocity
0
5
10
15
20
25
30
35
Time [s]
0.524
−0.524
SHAP value (impact on model output)

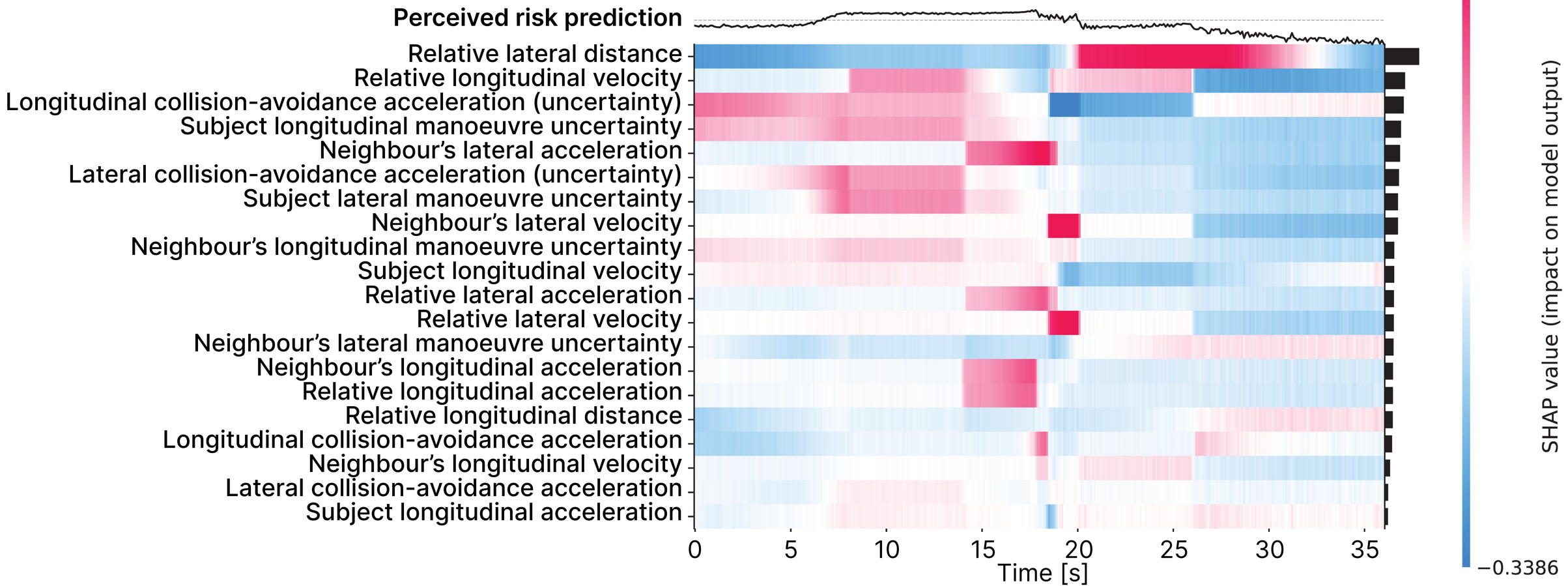
LC20


Perceived risk prediction
Longitudinal collision-avoidance acceleration (uncertainty)
Relative lateral distance
Relative longitudinal velocity
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal distance
Neighbour's lateral manoeuvre uncertainty
Relative lateral velocity
Relative lateral acceleration
Relative longitudinal acceleration
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Subject longitudinal acceleration
Lateral collision-avoidance acceleration
Subject longitudinal velocity
0
5
10
15
20
25
30
35
Time [s]
0.502
−0.502
SHAP value (impact on model output)

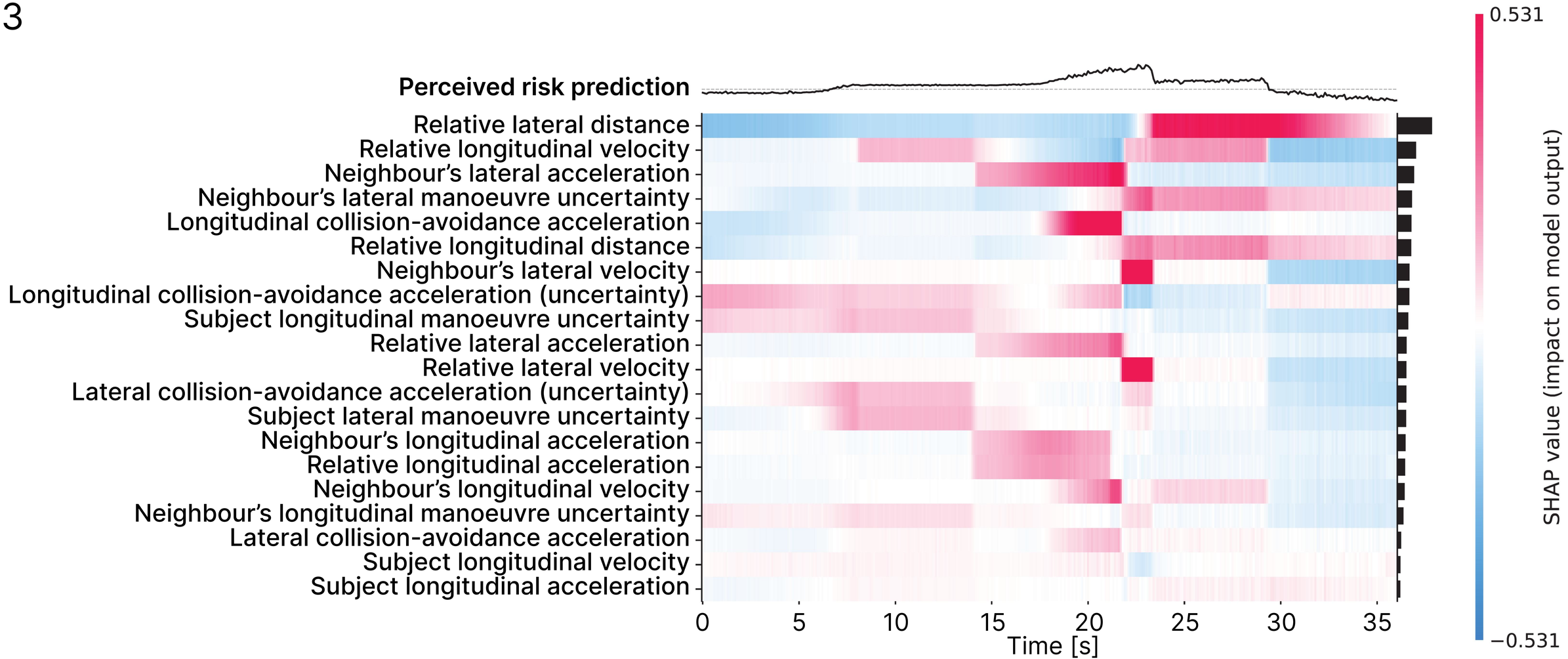
LC21


Perceived risk prediction
Relative lateral distance
Relative longitudinal velocity
Neighbour's lateral acceleration
Longitudinal collision-avoidance acceleration
Longitudinal collision-avoidance acceleration (uncertainty)
Neighbour's lateral manoeuvre uncertainty
Neighbour's lateral velocity
Subject longitudinal manoeuvre uncertainty
Relative longitudinal distance
Lateral collision-avoidance acceleration (uncertainty)
Relative lateral acceleration
Relative lateral velocity
Neighbour's longitudinal acceleration
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal velocity
Relative longitudinal acceleration
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Subject longitudinal acceleration
Subject longitudinal velocity
0
5
10
15
20
25
30
35
Time [s]
0.45
−0.45
SHAP value (impact on model output)

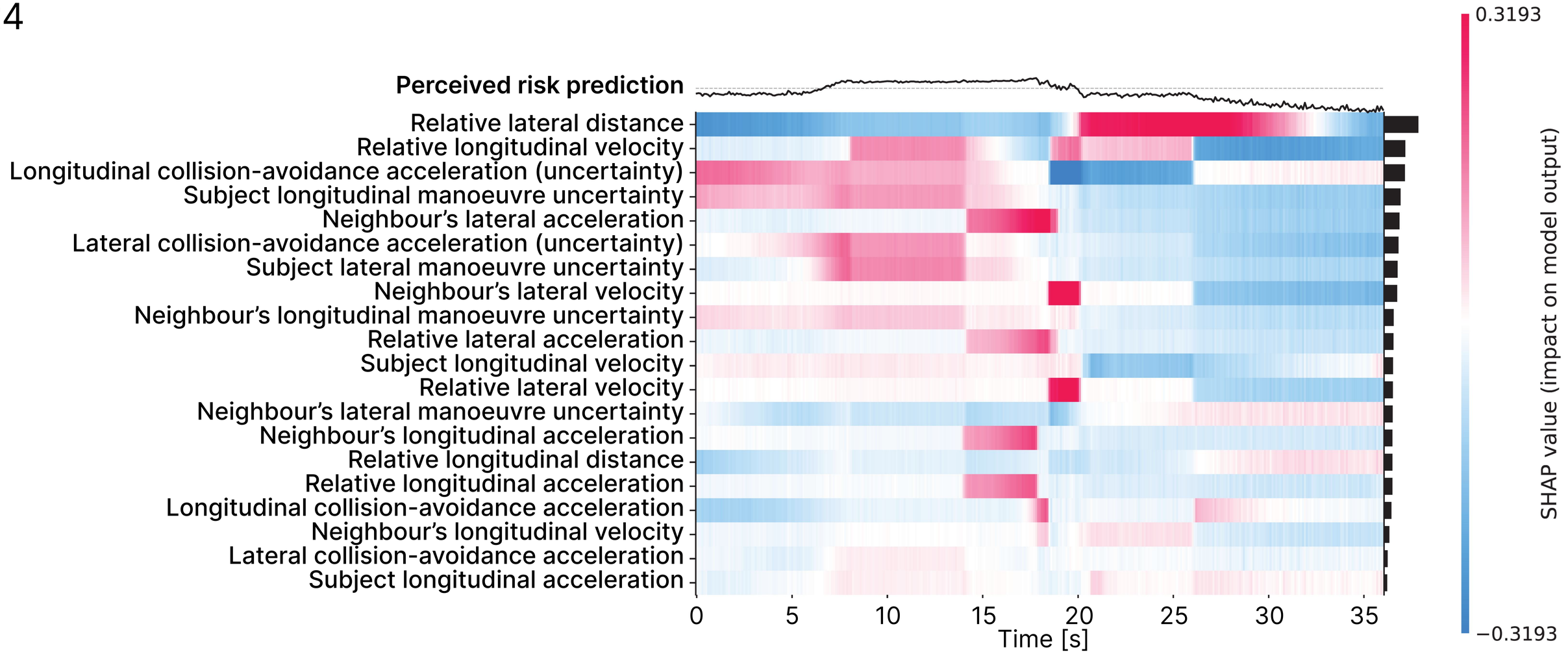
LC22


Perceived risk prediction
Relative lateral distance
Relative longitudinal velocity
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Subject longitudinal velocity
Relative lateral acceleration
Relative lateral velocity
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Relative longitudinal distance
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Lateral collision-avoidance acceleration
Subject longitudinal acceleration
0
5
10
15
20
25
30
35
Time [s]
0.3386
−0.3386
SHAP value (impact on model output)

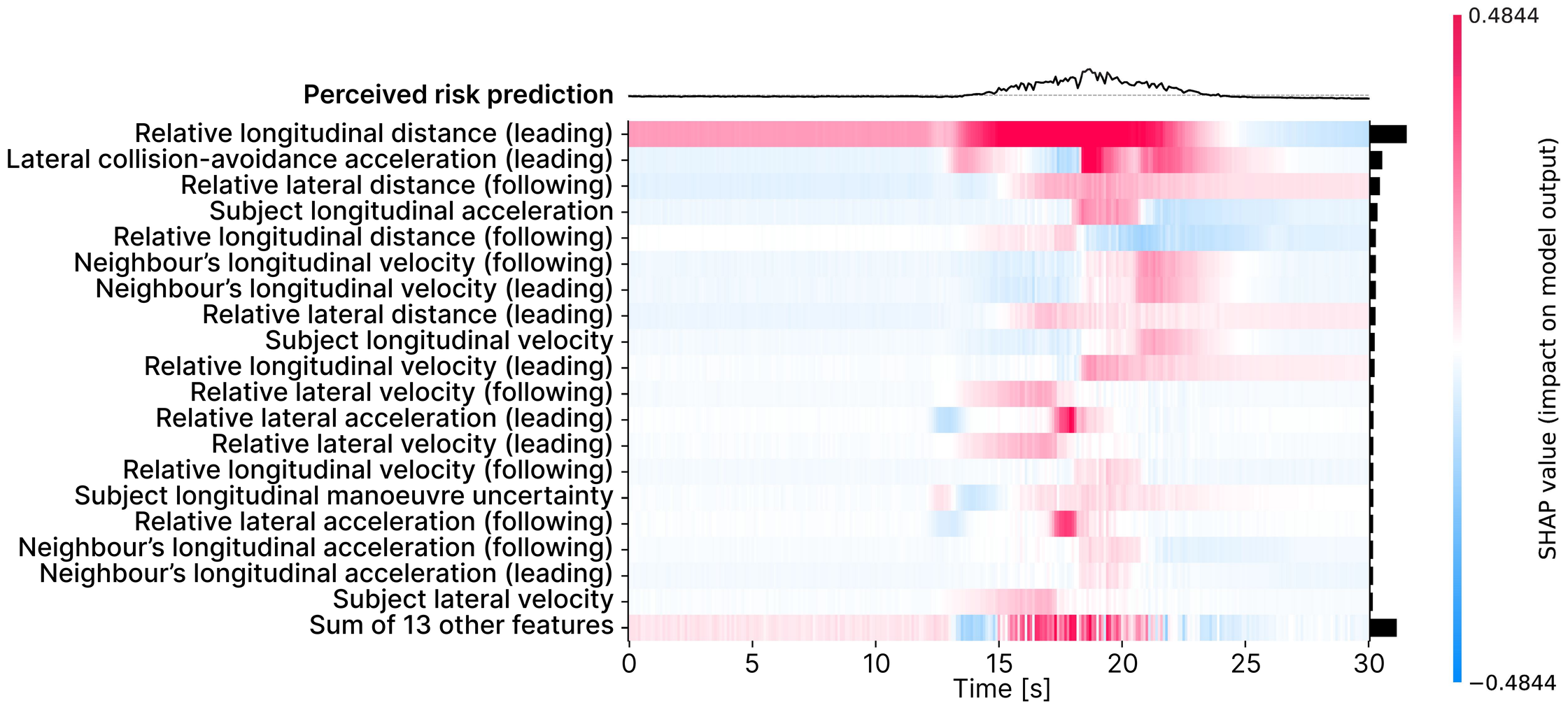
LC23


Perceived risk prediction
Relative lateral distance
Relative longitudinal velocity
Neighbour's lateral acceleration
Neighbour's lateral manoeuvre uncertainty
Longitudinal collision-avoidance acceleration
Relative longitudinal distance
Neighbour's lateral velocity
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration
Relative lateral velocity
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal acceleration
Neighbour's longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration
Subject longitudinal velocity
Subject longitudinal acceleration
0
5
10
15
20
25
30
35
Time [s]
0.531
−0.531
SHAP value (impact on model output)

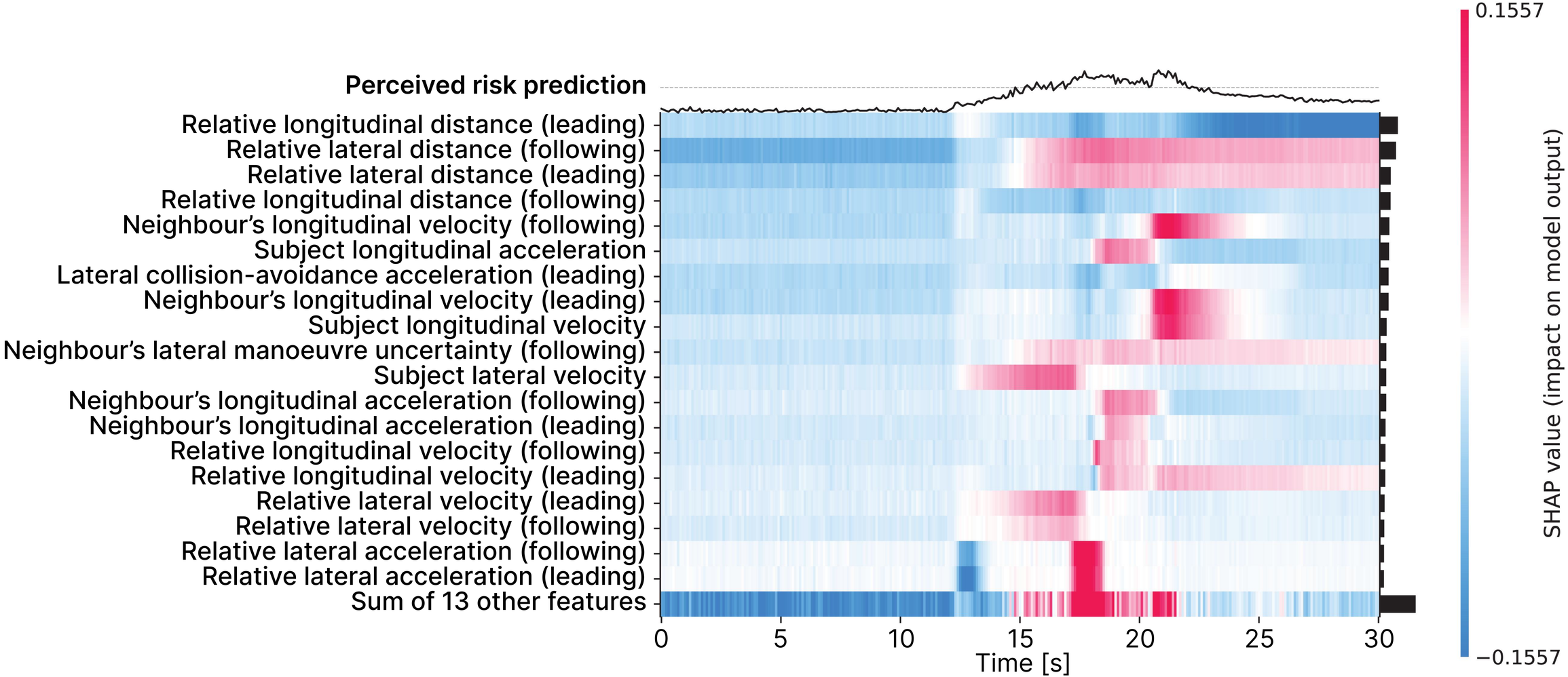
LC24

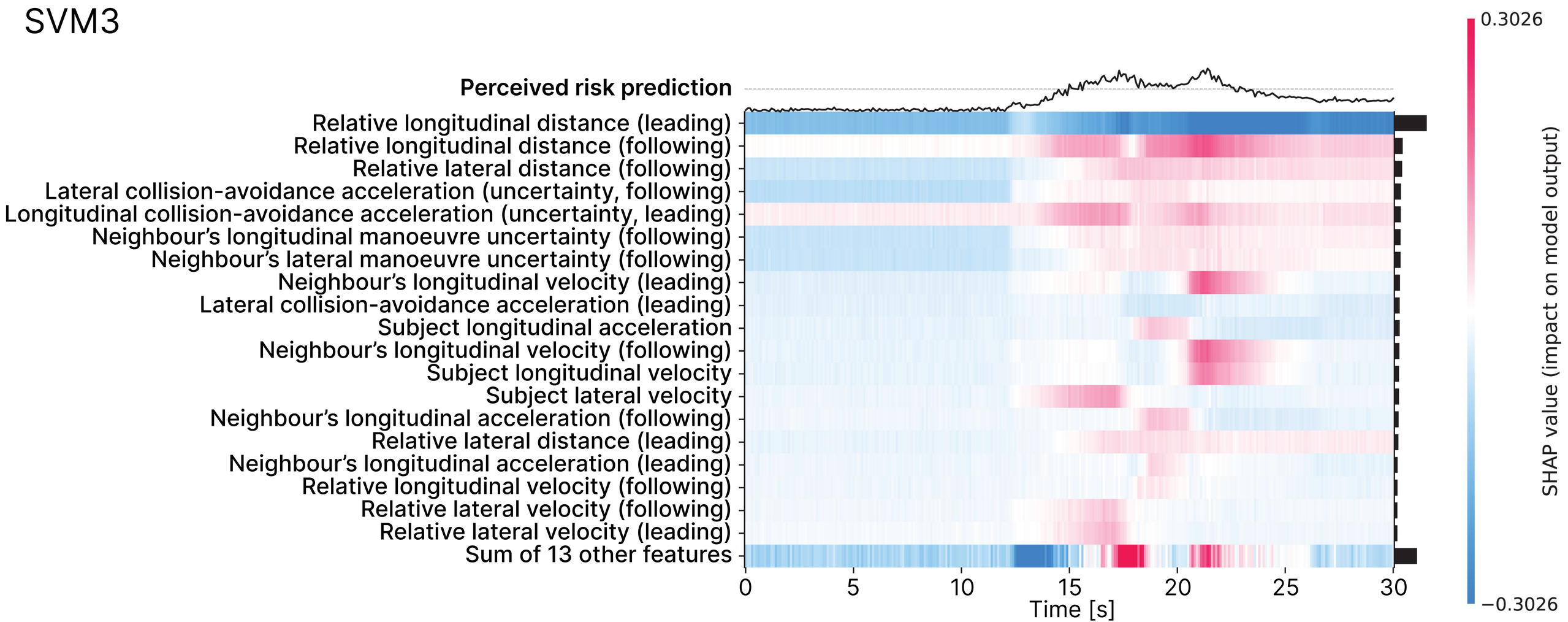

Perceived risk prediction
Relative lateral distance
Relative longitudinal velocity
Longitudinal collision-avoidance acceleration (uncertainty)
Subject longitudinal manoeuvre uncertainty
Neighbour's lateral acceleration
Lateral collision-avoidance acceleration (uncertainty)
Subject lateral manoeuvre uncertainty
Neighbour's lateral velocity
Neighbour's longitudinal manoeuvre uncertainty
Relative lateral acceleration
Subject longitudinal velocity
Relative lateral velocity
Neighbour's lateral manoeuvre uncertainty
Neighbour's longitudinal acceleration
Relative longitudinal distance
Relative longitudinal acceleration
Longitudinal collision-avoidance acceleration
Neighbour's longitudinal velocity
Lateral collision-avoidance acceleration
Subject longitudinal acceleration
0
5
10
15
20
25
30
35
Time [s]
0.3193
−0.3193
SHAP value (impact on model output)

SVM1

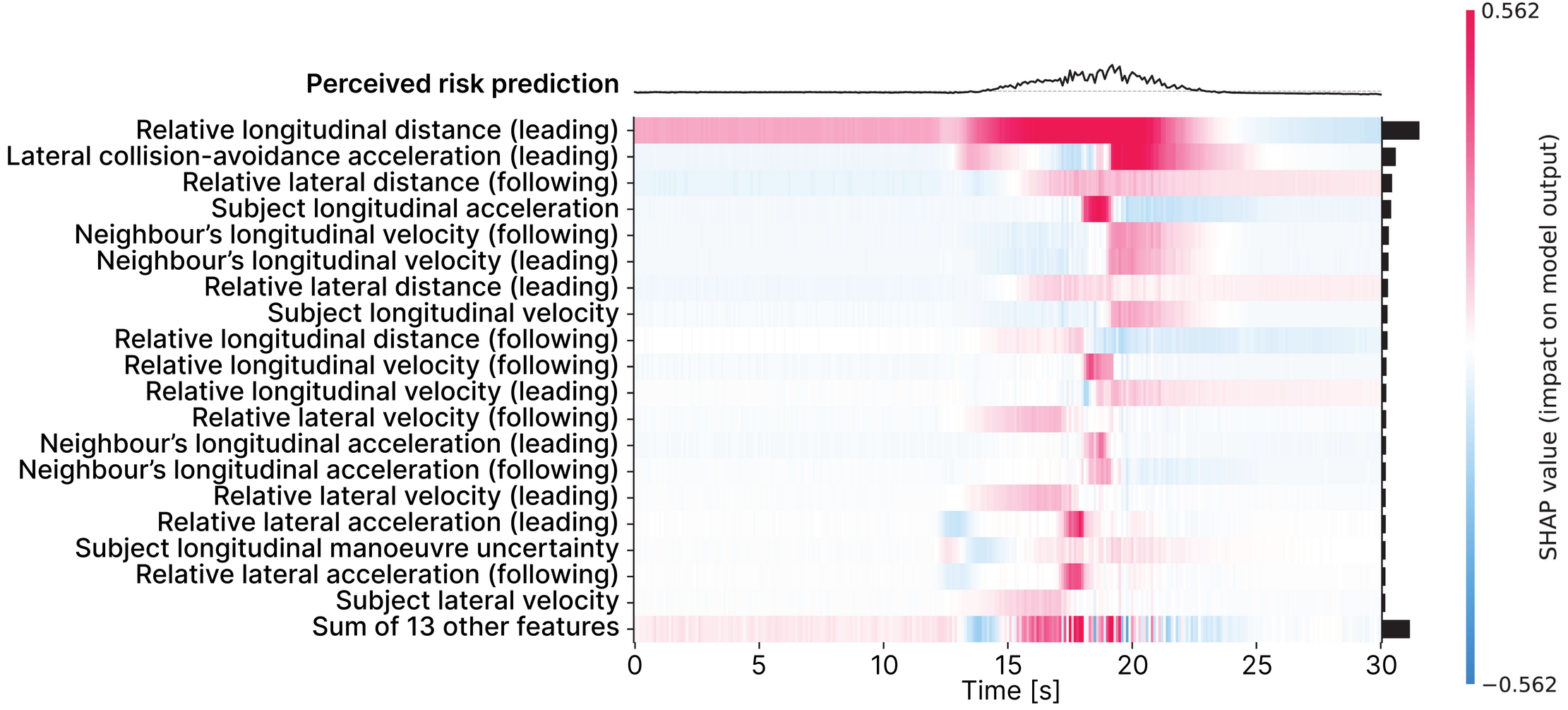

Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (following)
Subject longitudinal acceleration
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Relative lateral distance (leading)
Subject longitudinal velocity
Relative longitudinal velocity (leading)
Relative lateral velocity (following)
Relative lateral acceleration (leading)
Relative lateral velocity (leading)
Relative longitudinal velocity (following)
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration (following)
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Subject lateral velocity
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.4844
−0.4844
SHAP value (impact on model output)

SVM2

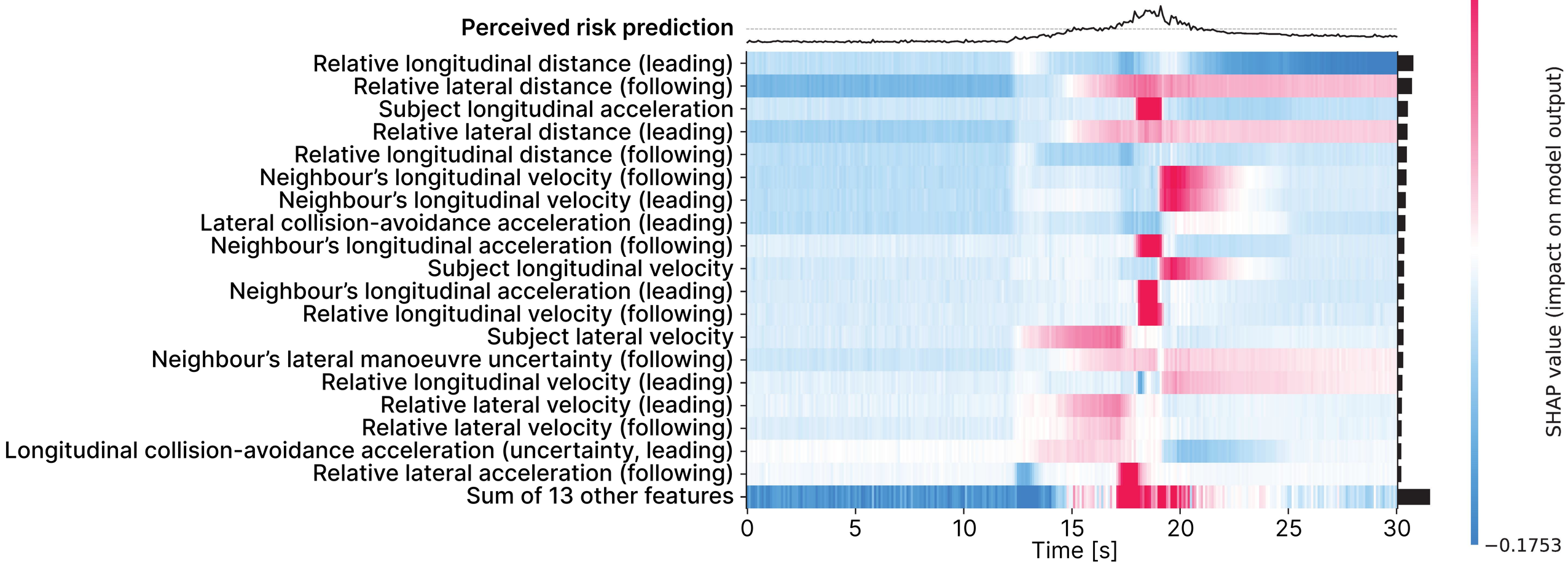

Perceived risk prediction
Relative longitudinal distance (leading)
Relative lateral distance (following)
Relative lateral distance (leading)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Subject longitudinal acceleration
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (leading)
Subject longitudinal velocity
Neighbour's lateral manoeuvre uncertainty (following)
Subject lateral velocity
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Relative longitudinal velocity (leading)
Relative lateral velocity (leading)
Relative lateral velocity (following)
Relative lateral acceleration (following)
Relative lateral acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.1557
−0.1557
SHAP value (impact on model output)


SVM3
Perceived risk prediction
Relative longitudinal distance (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Neighbour's longitudinal manoeuvre uncertainty (following)
Neighbour's lateral manoeuvre uncertainty (following)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (leading)
Subject longitudinal acceleration
Neighbour's longitudinal velocity (following)
Subject longitudinal velocity
Subject lateral velocity
Neighbour's longitudinal acceleration (following)
Relative lateral distance (leading)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Relative lateral velocity (following)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.3026
−0.3026
SHAP value (impact on model output)

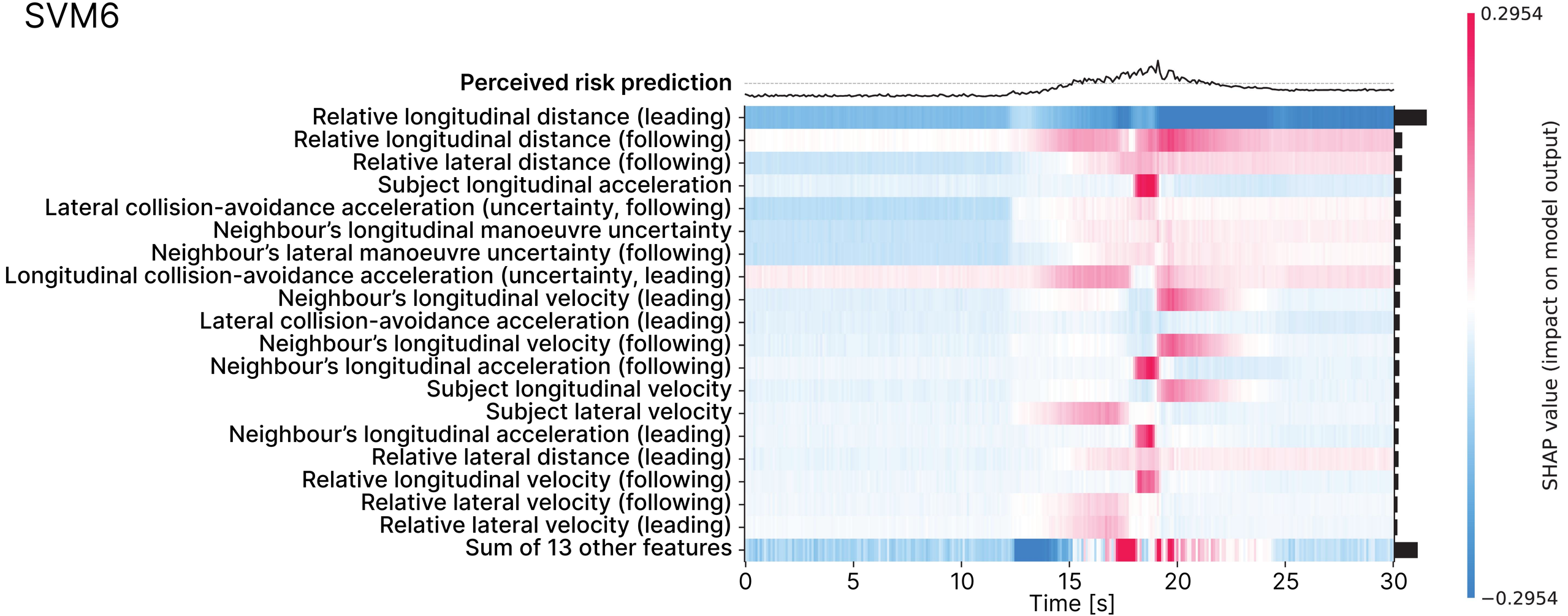
SVM4


Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (following)
Subject longitudinal acceleration
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Relative lateral distance (leading)
Subject longitudinal velocity
Relative longitudinal distance (following)
Relative longitudinal velocity (following)
Relative longitudinal velocity (leading)
Relative lateral velocity (following)
Neighbour's longitudinal acceleration (leading)
Neighbour's longitudinal acceleration (following)
Relative lateral velocity (leading)
Relative lateral acceleration (leading)
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration (following)
Subject lateral velocity
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.562
−0.562
SHAP value (impact on model output)

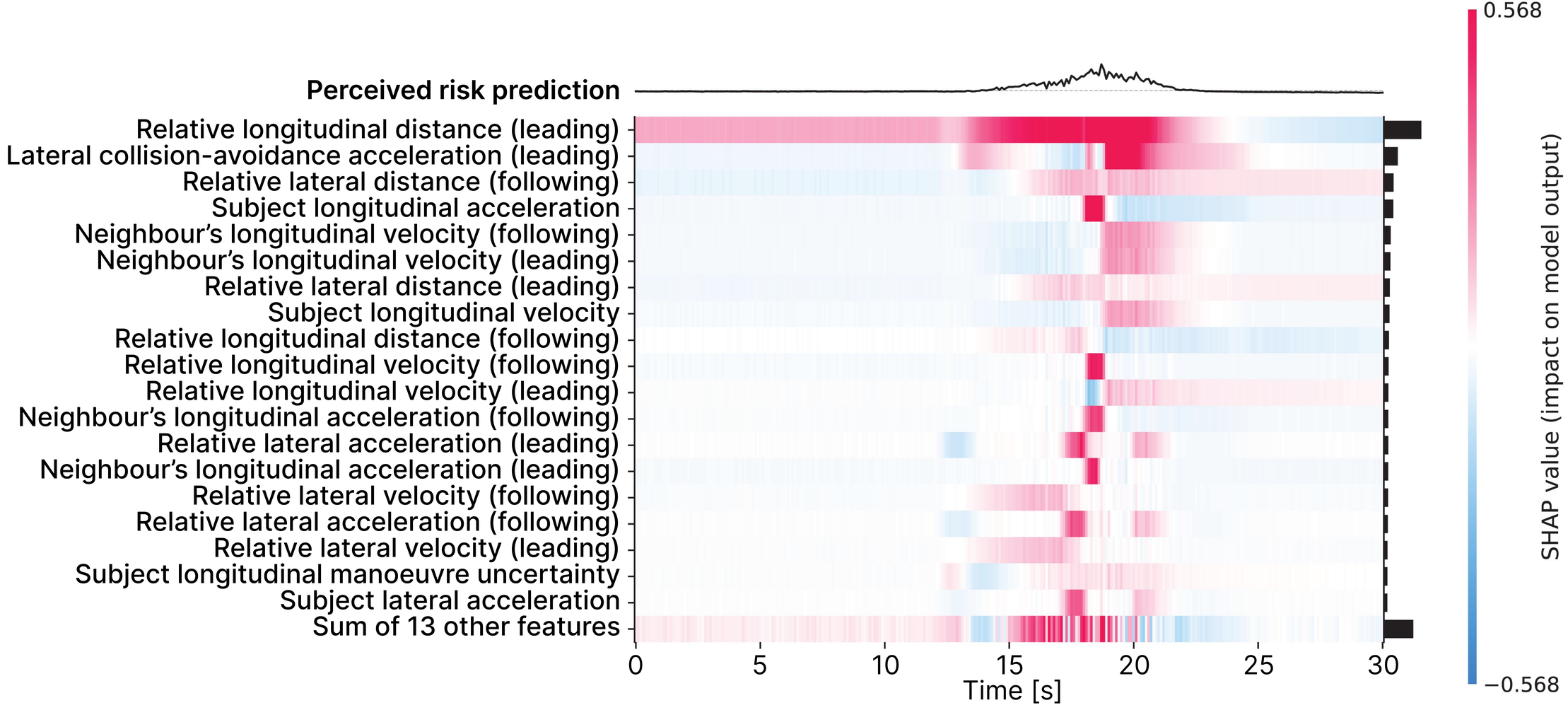
SVM5


Perceived risk prediction
Relative longitudinal distance (leading)
Relative lateral distance (following)
Subject longitudinal acceleration
Relative lateral distance (leading)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal acceleration (following)
Subject longitudinal velocity
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Subject lateral velocity
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (leading)
Relative lateral velocity (leading)
Relative lateral velocity (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Relative lateral acceleration (following)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.1753
−0.1753
SHAP value (impact on model output)

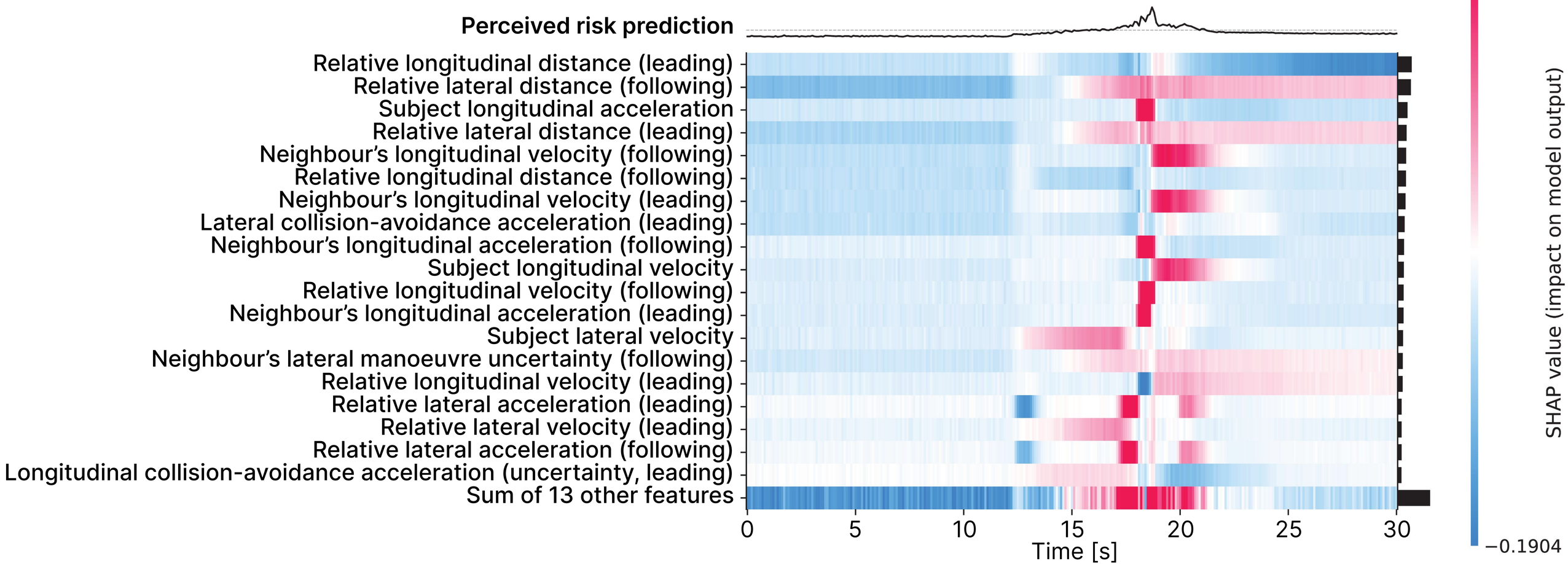
SVM6

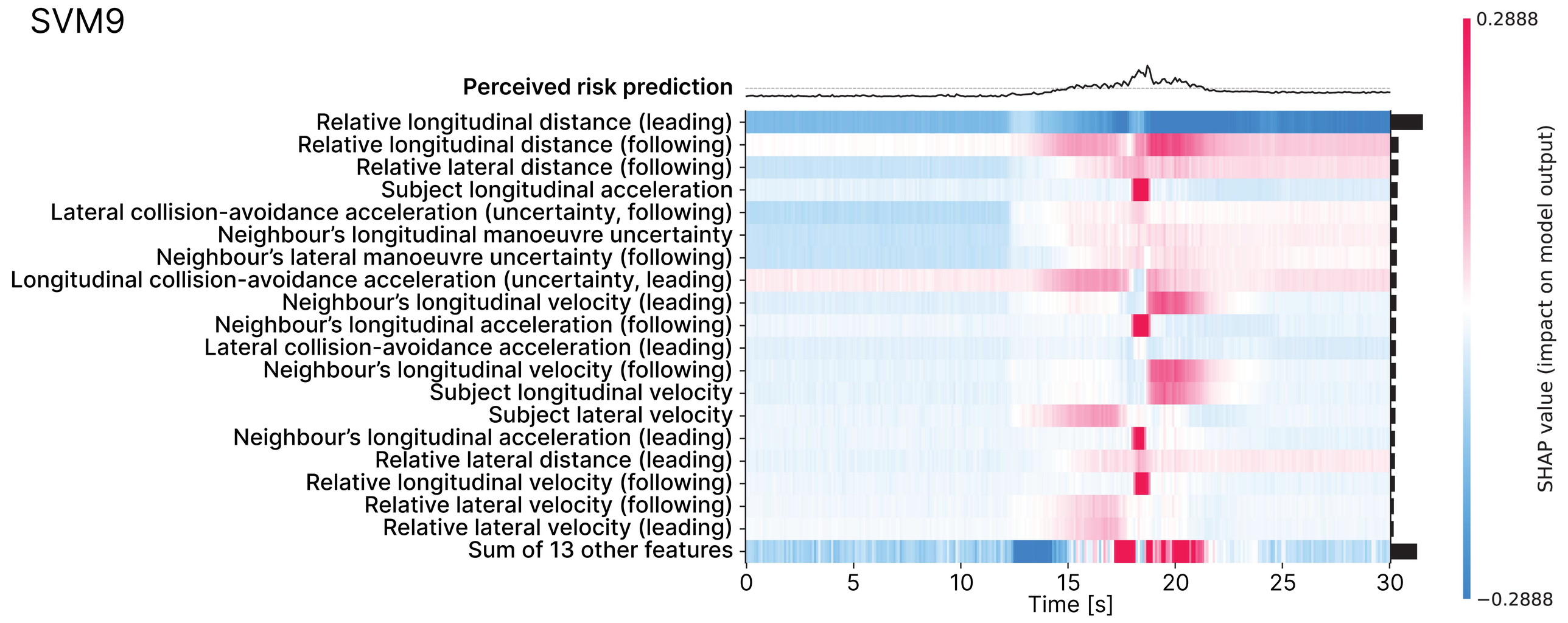

Perceived risk prediction
Relative longitudinal distance (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Subject longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's lateral manoeuvre uncertainty (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal acceleration (following)
Subject longitudinal velocity
Subject lateral velocity
Neighbour's longitudinal acceleration (leading)
Relative lateral distance (leading)
Relative longitudinal velocity (following)
Relative lateral velocity (following)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.2954
−0.2954
SHAP value (impact on model output)

SVM7

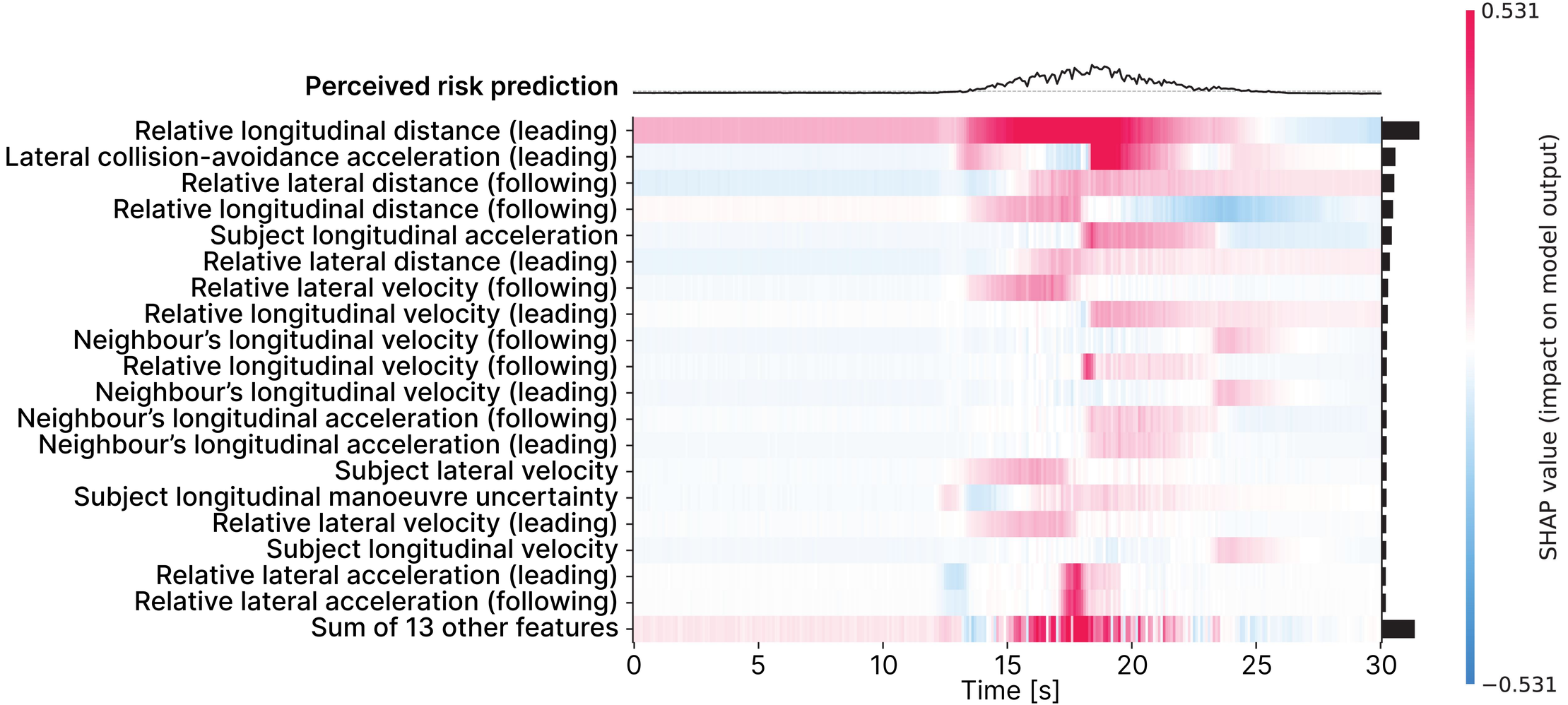

Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (following)
Subject longitudinal acceleration
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Relative lateral distance (leading)
Subject longitudinal velocity
Relative longitudinal distance (following)
Relative longitudinal velocity (following)
Relative longitudinal velocity (leading)
Neighbour's longitudinal acceleration (following)
Relative lateral acceleration (leading)
Neighbour's longitudinal acceleration (leading)
Relative lateral velocity (following)
Relative lateral acceleration (following)
Relative lateral velocity (leading)
Subject longitudinal manoeuvre uncertainty
Subject lateral acceleration
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.568
−0.568
SHAP value (impact on model output)

SVM8

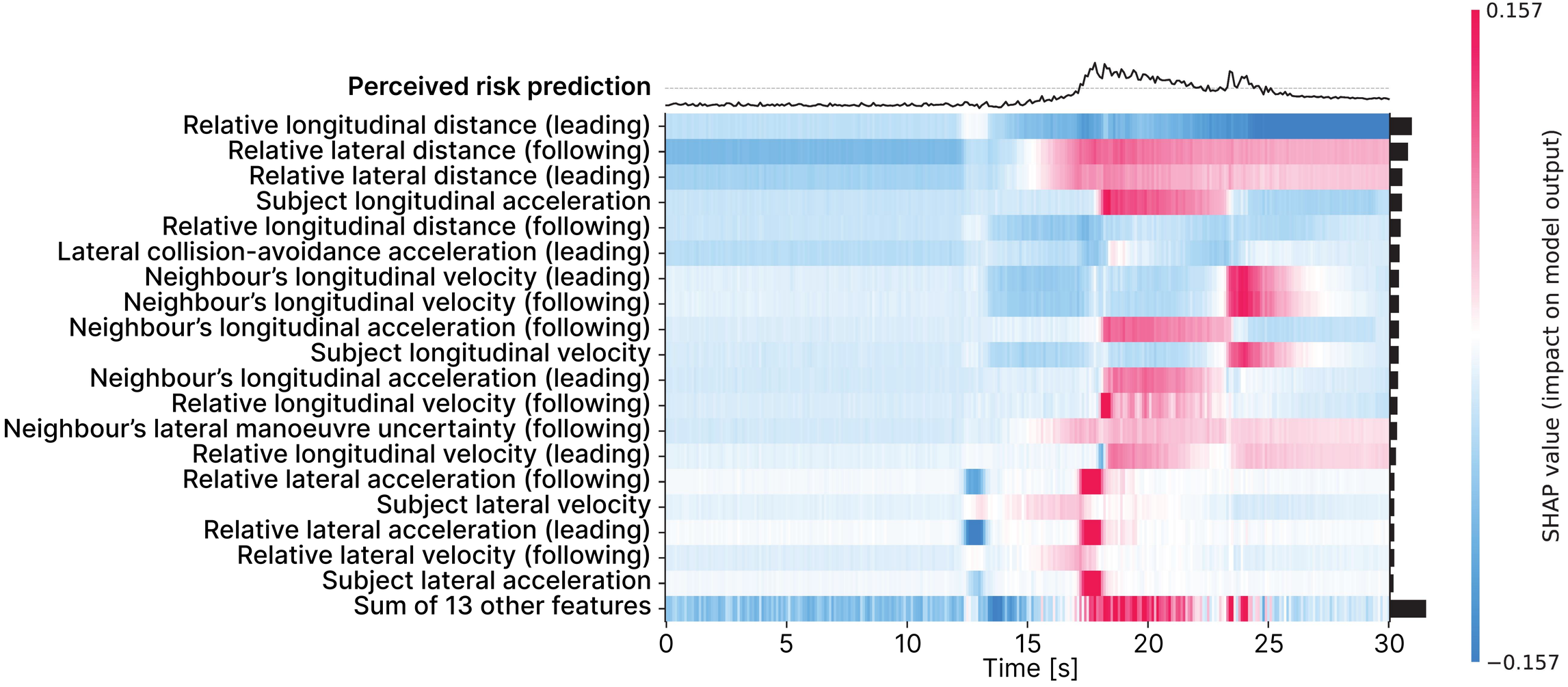

Perceived risk prediction
Relative longitudinal distance (leading)
Relative lateral distance (following)
Subject longitudinal acceleration
Relative lateral distance (leading)
Neighbour's longitudinal velocity (following)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal acceleration (following)
Subject longitudinal velocity
Relative longitudinal velocity (following)
Neighbour's longitudinal acceleration (leading)
Subject lateral velocity
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (leading)
Relative lateral acceleration (leading)
Relative lateral velocity (leading)
Relative lateral acceleration (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.1904
−0.1904
SHAP value (impact on model output)

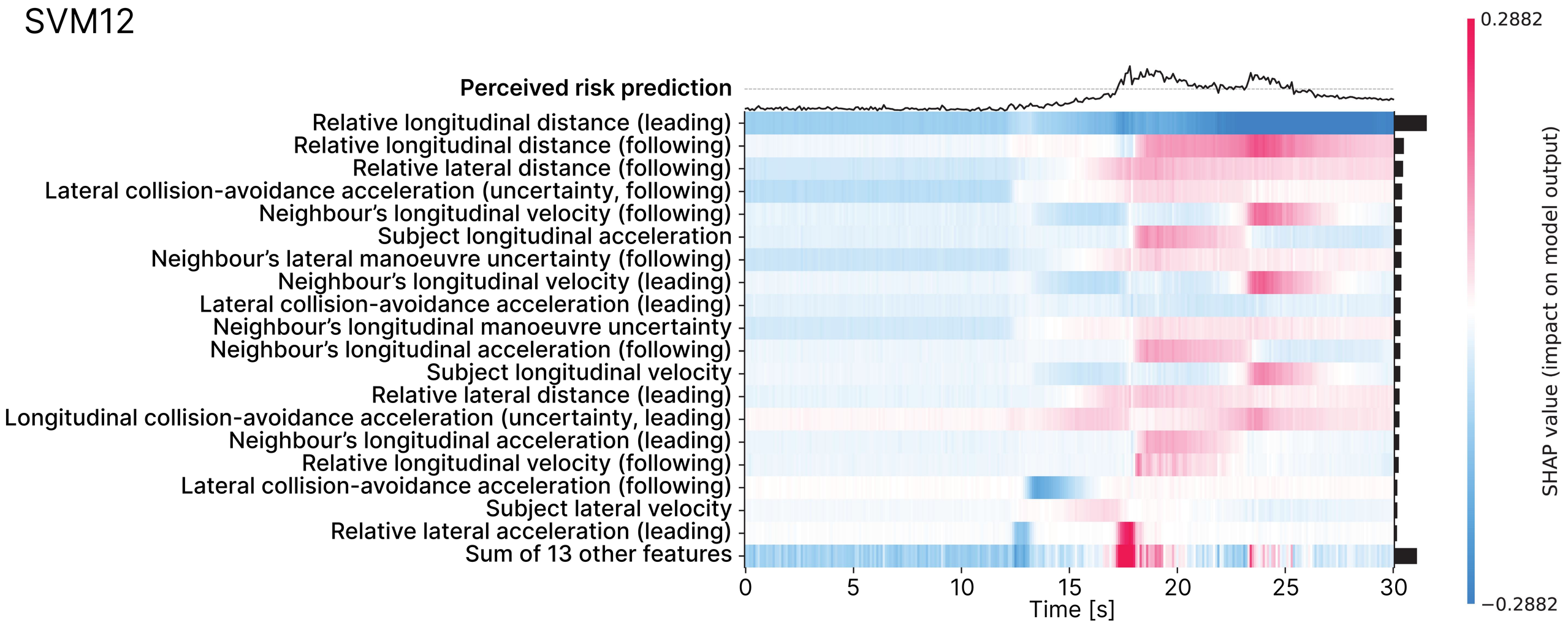

SVM9
Perceived risk prediction
Relative longitudinal distance (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Subject longitudinal acceleration
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's lateral manoeuvre uncertainty (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal acceleration (following)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (following)
Subject longitudinal velocity
Subject lateral velocity
Neighbour's longitudinal acceleration (leading)
Relative lateral distance (leading)
Relative longitudinal velocity (following)
Relative lateral velocity (following)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.2888
−0.2888
SHAP value (impact on model output)

SVM10

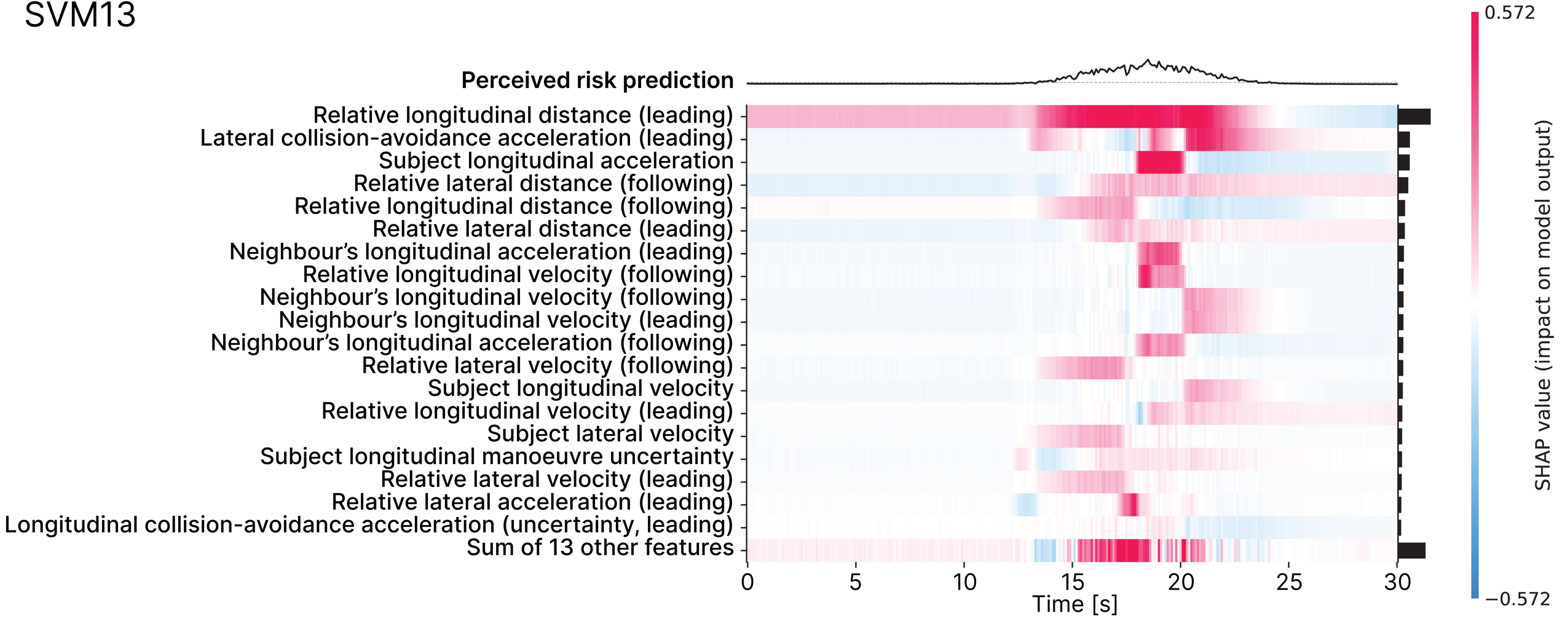

Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (following)
Relative longitudinal distance (following)
Subject longitudinal acceleration
Relative lateral distance (leading)
Relative lateral velocity (following)
Relative longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Relative longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Subject lateral velocity
Subject longitudinal manoeuvre uncertainty
Relative lateral velocity (leading)
Subject longitudinal velocity
Relative lateral acceleration (leading)
Relative lateral acceleration (following)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.531
−0.531
SHAP value (impact on model output)

SVM11

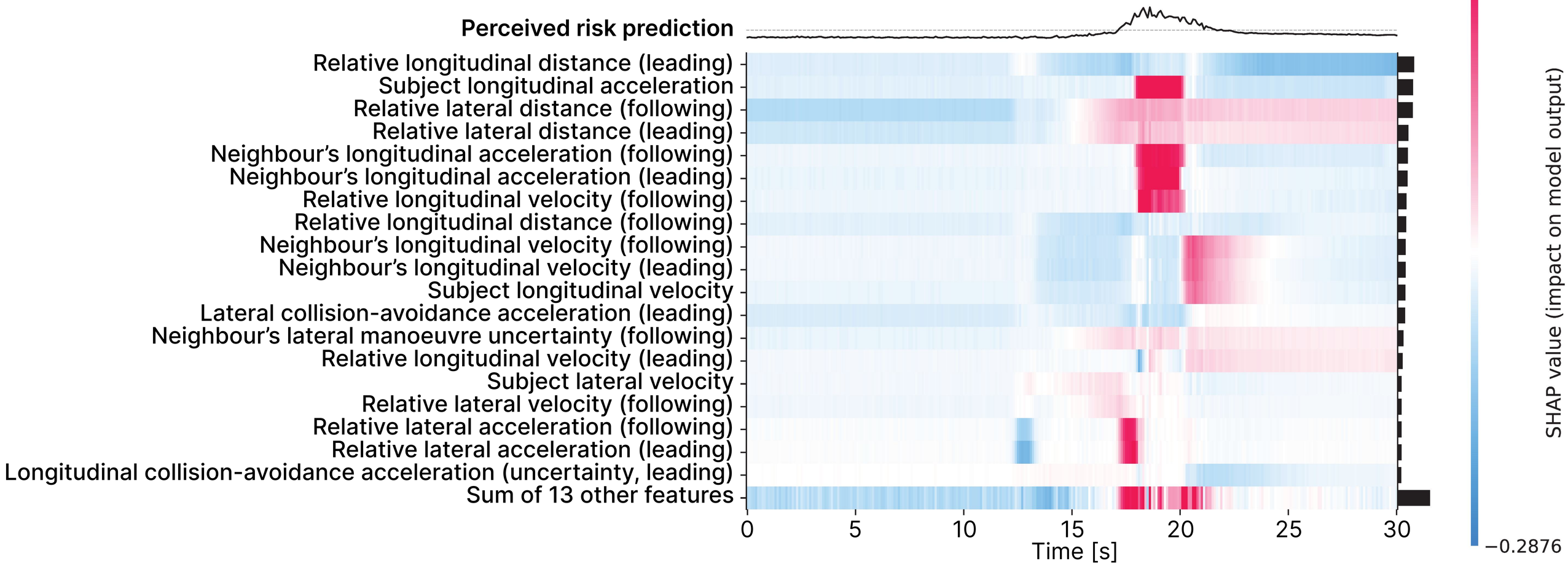

Perceived risk prediction
Relative longitudinal distance (leading)
Relative lateral distance (following)
Relative lateral distance (leading)
Subject longitudinal acceleration
Relative longitudinal distance (following)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal acceleration (following)
Subject longitudinal velocity
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (leading)
Relative lateral acceleration (following)
Subject lateral velocity
Relative lateral acceleration (leading)
Relative lateral velocity (following)
Subject lateral acceleration
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.157
−0.157
SHAP value (impact on model output)

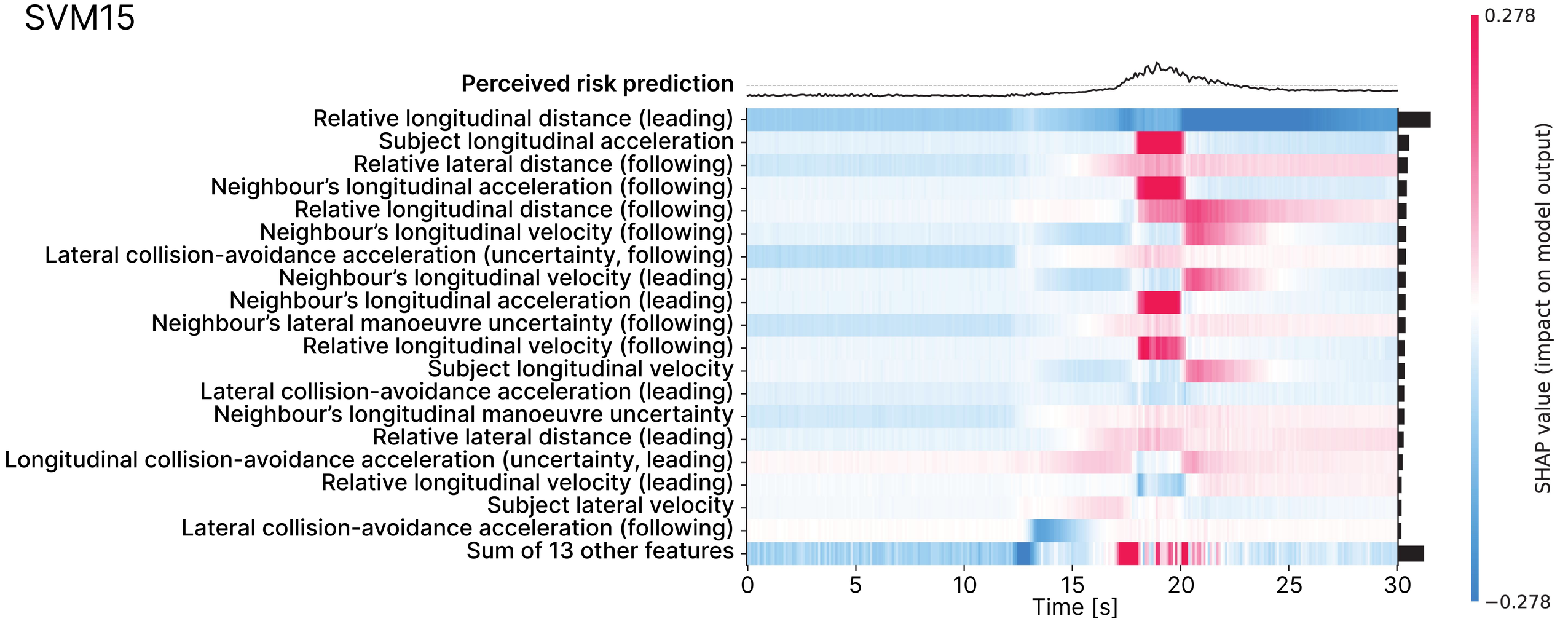

SVM12
Perceived risk prediction
Relative longitudinal distance (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's longitudinal velocity (following)
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty (following)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal acceleration (following)
Subject longitudinal velocity
Relative lateral distance (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Lateral collision-avoidance acceleration (following)
Subject lateral velocity
Relative lateral acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.2882
−0.2882
SHAP value (impact on model output)

SVM13

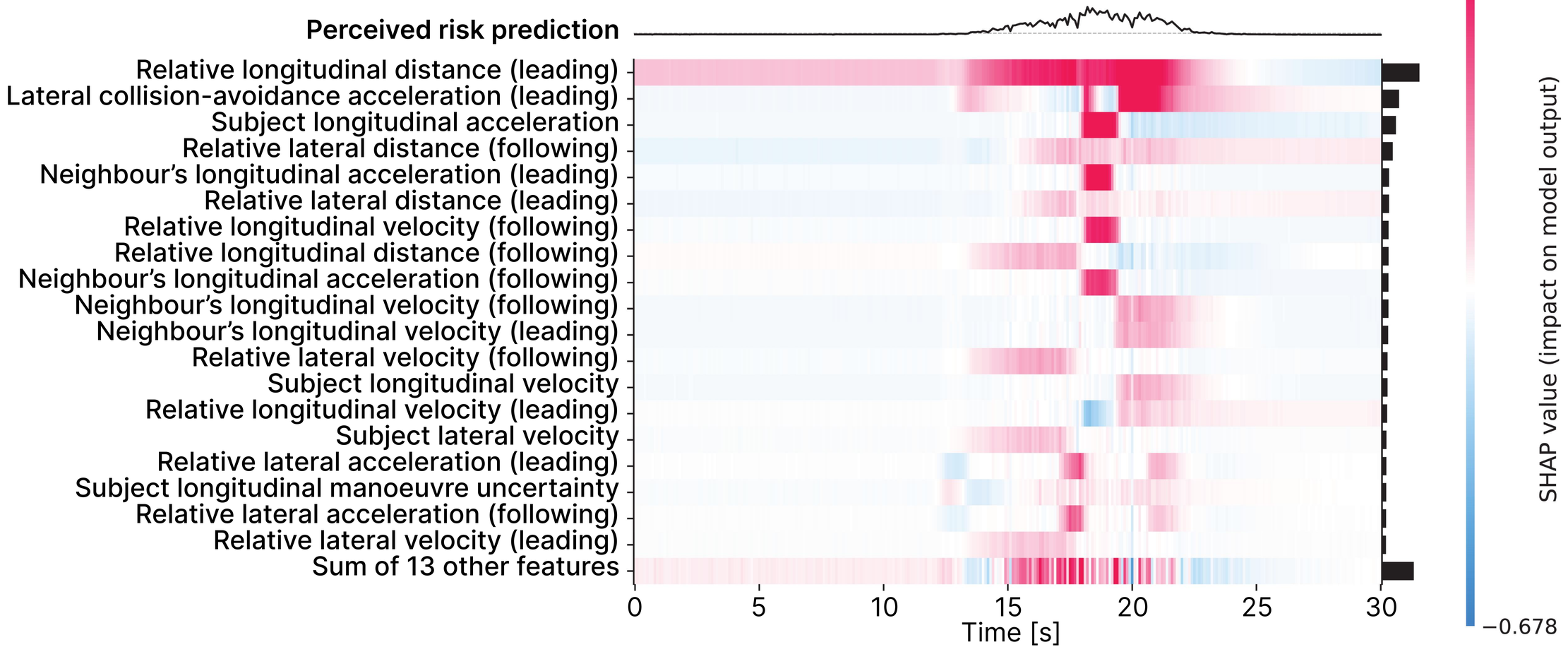

Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Subject longitudinal acceleration
Relative lateral distance (following)
Relative longitudinal distance (following)
Relative lateral distance (leading)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal acceleration (following)
Relative lateral velocity (following)
Subject longitudinal velocity
Relative longitudinal velocity (leading)
Subject lateral velocity
Subject longitudinal manoeuvre uncertainty
Relative lateral velocity (leading)
Relative lateral acceleration (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.572
−0.572
SHAP value (impact on model output)

SVM14

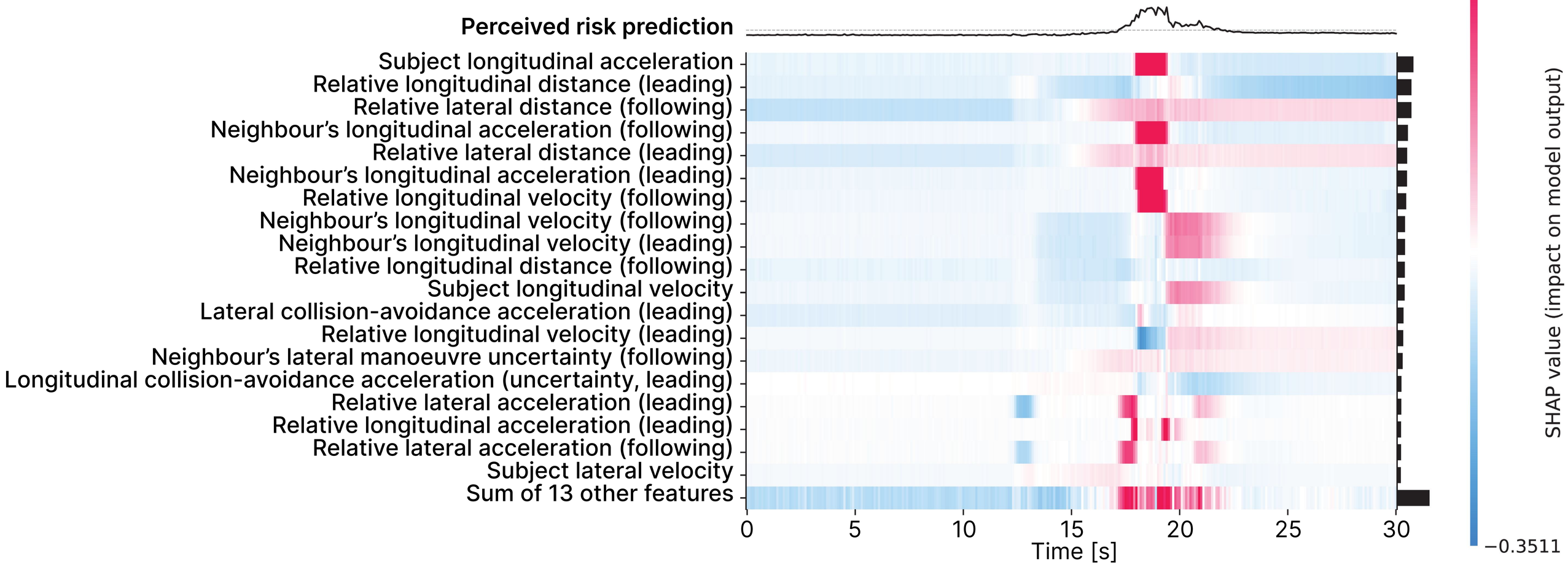

Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Relative lateral distance (following)
Relative lateral distance (leading)
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Subject longitudinal velocity
Lateral collision-avoidance acceleration (leading)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (leading)
Subject lateral velocity
Relative lateral velocity (following)
Relative lateral acceleration (following)
Relative lateral acceleration (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.2876
−0.2876
SHAP value (impact on model output)


SVM15
Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Relative lateral distance (following)
Neighbour's longitudinal acceleration (following)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal acceleration (leading)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (following)
Subject longitudinal velocity
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal manoeuvre uncertainty
Relative lateral distance (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Relative longitudinal velocity (leading)
Subject lateral velocity
Lateral collision-avoidance acceleration (following)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.278
−0.278
SHAP value (impact on model output)

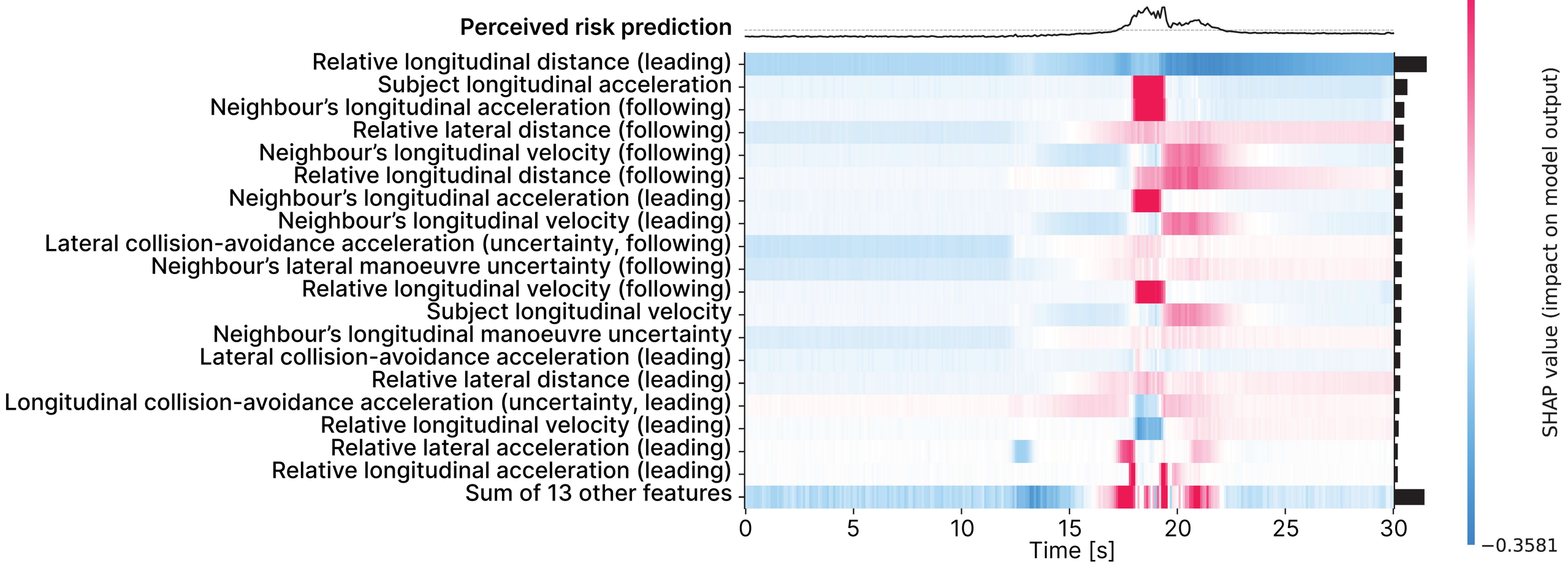
SVM16


Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Subject longitudinal acceleration
Relative lateral distance (following)
Neighbour's longitudinal acceleration (leading)
Relative lateral distance (leading)
Relative longitudinal velocity (following)
Relative longitudinal distance (following)
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Relative lateral velocity (following)
Subject longitudinal velocity
Relative longitudinal velocity (leading)
Subject lateral velocity
Relative lateral acceleration (leading)
Subject longitudinal manoeuvre uncertainty
Relative lateral acceleration (following)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.678
−0.678
SHAP value (impact on model output)

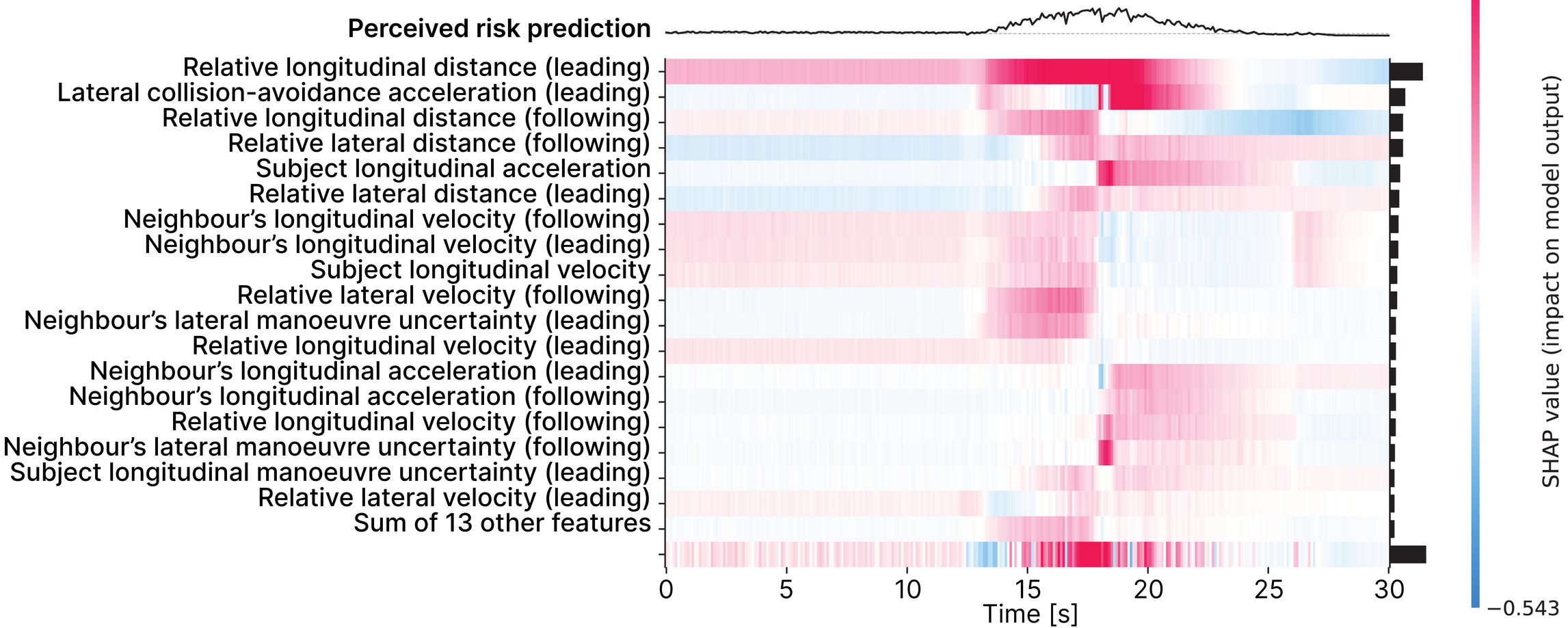
SVM17


Perceived risk prediction
Subject longitudinal acceleration
Relative longitudinal distance (leading)
Relative lateral distance (following)
Neighbour's longitudinal acceleration (following)
Relative lateral distance (leading)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Relative longitudinal distance (following)
Subject longitudinal velocity
Lateral collision-avoidance acceleration (leading)
Relative longitudinal velocity (leading)
Neighbour's lateral manoeuvre uncertainty (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Relative lateral acceleration (leading)
Relative longitudinal acceleration (leading)
Relative lateral acceleration (following)
Subject lateral velocity
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.3511
−0.3511
SHAP value (impact on model output)

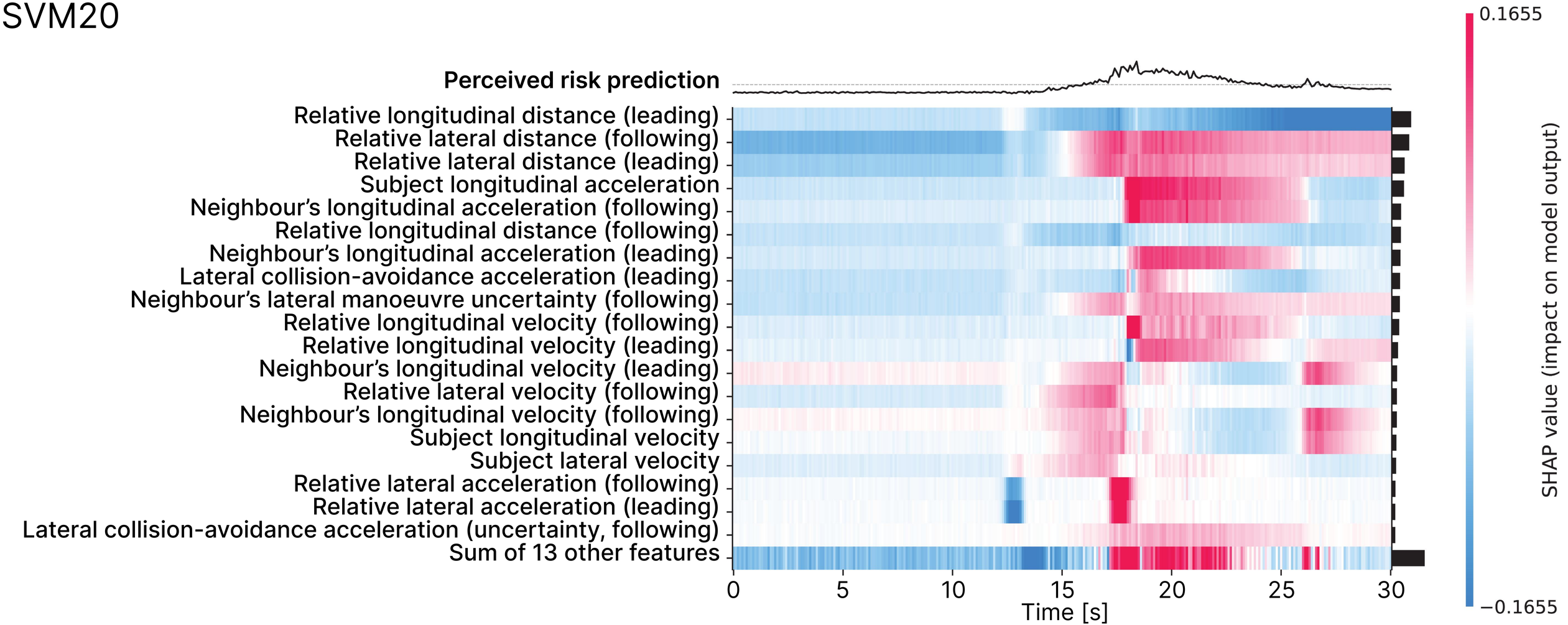
SVM18


Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration (following)
Relative lateral distance (following)
Neighbour's longitudinal velocity (following)
Relative longitudinal distance (following)
Neighbour's longitudinal acceleration (leading)
Neighbour's longitudinal velocity (leading)
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (following)
Subject longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Relative longitudinal velocity (leading)
Relative lateral acceleration (leading)
Relative longitudinal acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.3581
−0.3581
SHAP value (impact on model output)

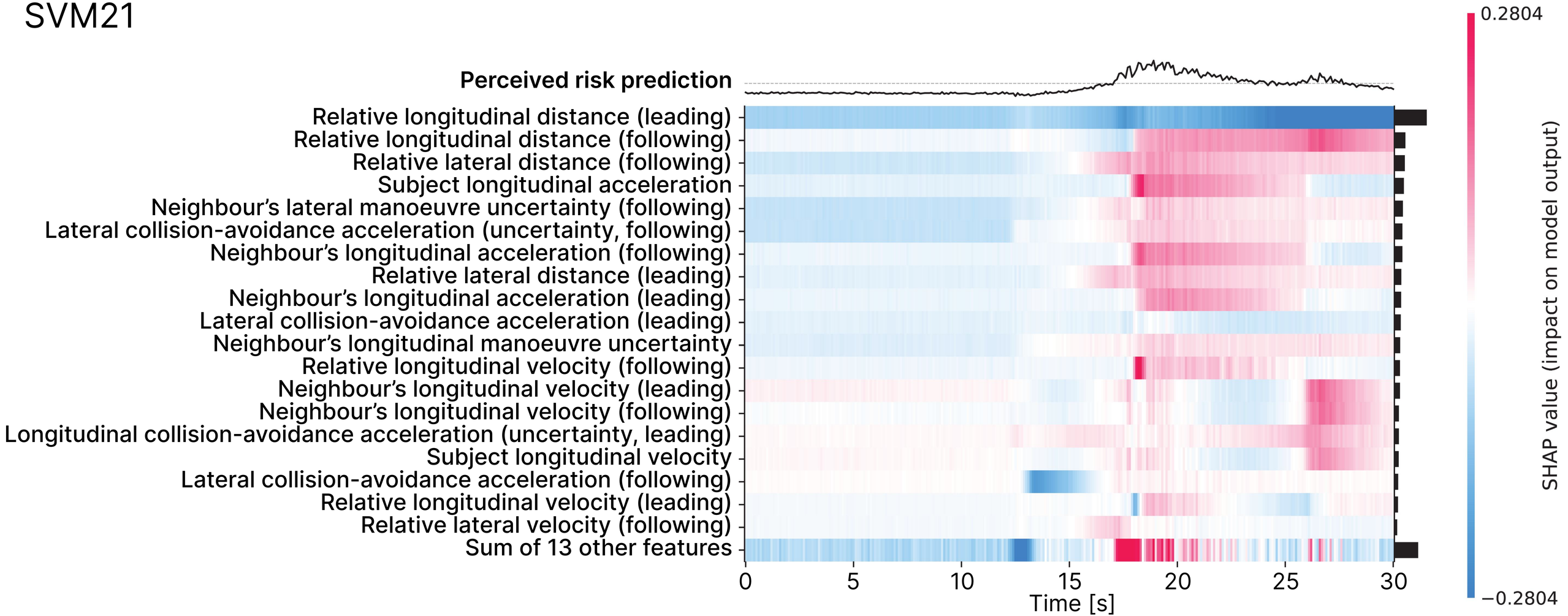
SVM19


Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Subject longitudinal acceleration
Relative lateral distance (leading)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Subject longitudinal velocity
Relative lateral velocity (following)
Neighbour's lateral manoeuvre uncertainty (leading)
Relative longitudinal velocity (leading)
Neighbour's longitudinal acceleration (leading)
Neighbour's longitudinal acceleration (following)
Relative longitudinal velocity (following)
Neighbour's lateral manoeuvre uncertainty (following)
Subject longitudinal manoeuvre uncertainty (leading)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.543
−0.543
SHAP value (impact on model output)

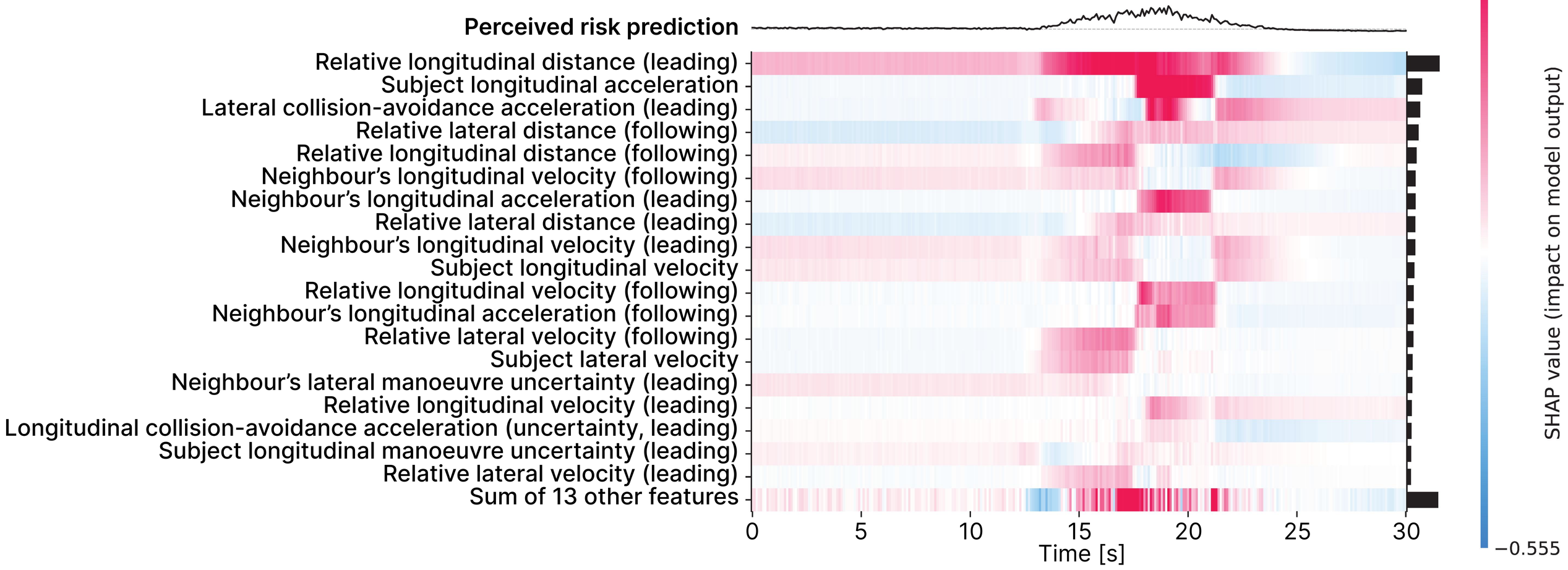
SVM20


Perceived risk prediction
Relative longitudinal distance (leading)
Relative lateral distance (following)
Relative lateral distance (leading)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration (following)
Relative longitudinal distance (following)
Neighbour's longitudinal acceleration (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (following)
Relative longitudinal velocity (leading)
Neighbour's longitudinal velocity (leading)
Relative lateral velocity (following)
Neighbour's longitudinal velocity (following)
Subject longitudinal velocity
Subject lateral velocity
Relative lateral acceleration (following)
Relative lateral acceleration (leading)
Lateral collision-avoidance acceleration (uncertainty, following)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.1655
−0.1655
SHAP value (impact on model output)

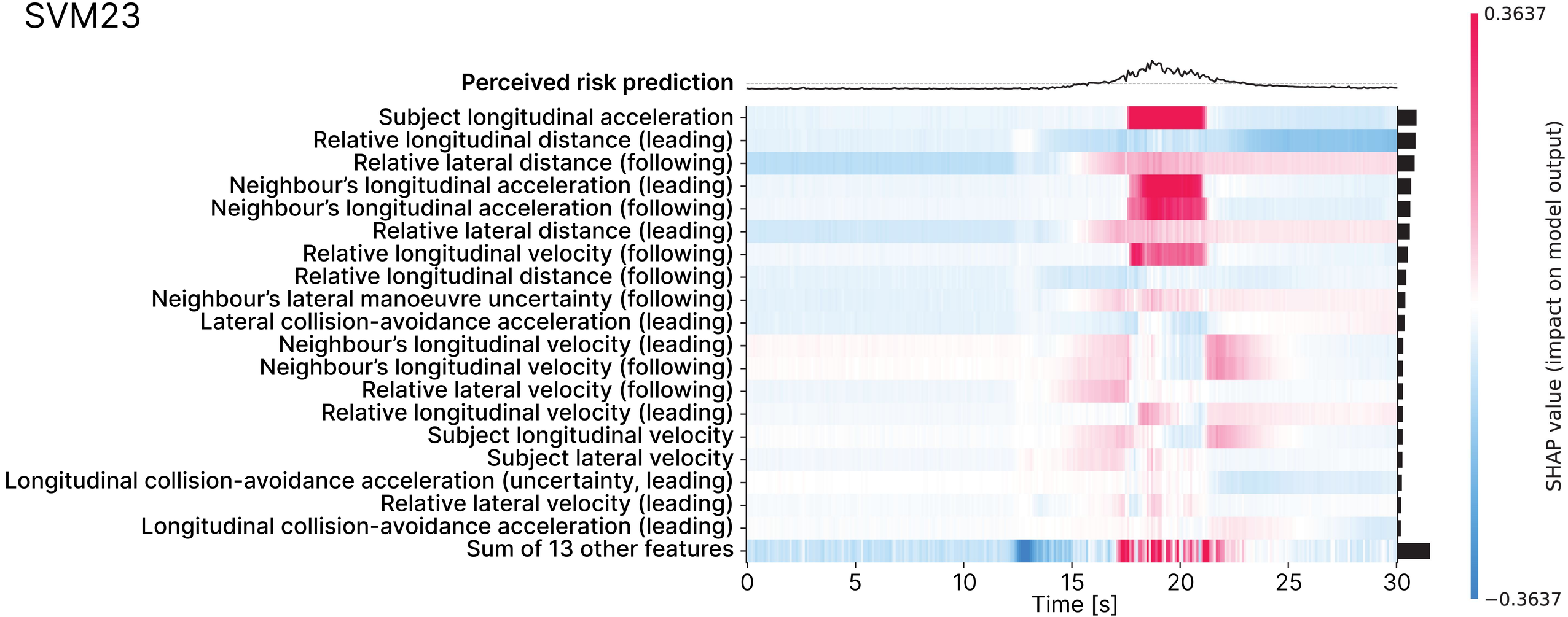
SVM21


Perceived risk prediction
Relative longitudinal distance (leading)
Relative longitudinal distance (following)
Relative lateral distance (following)
Subject longitudinal acceleration
Neighbour's lateral manoeuvre uncertainty (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Neighbour's longitudinal acceleration (following)
Relative lateral distance (leading)
Neighbour's longitudinal acceleration (leading)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal manoeuvre uncertainty
Relative longitudinal velocity (following)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Subject longitudinal velocity
Lateral collision-avoidance acceleration (following)
Relative longitudinal velocity (leading)
Relative lateral velocity (following)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.2804
−0.2804
SHAP value (impact on model output)

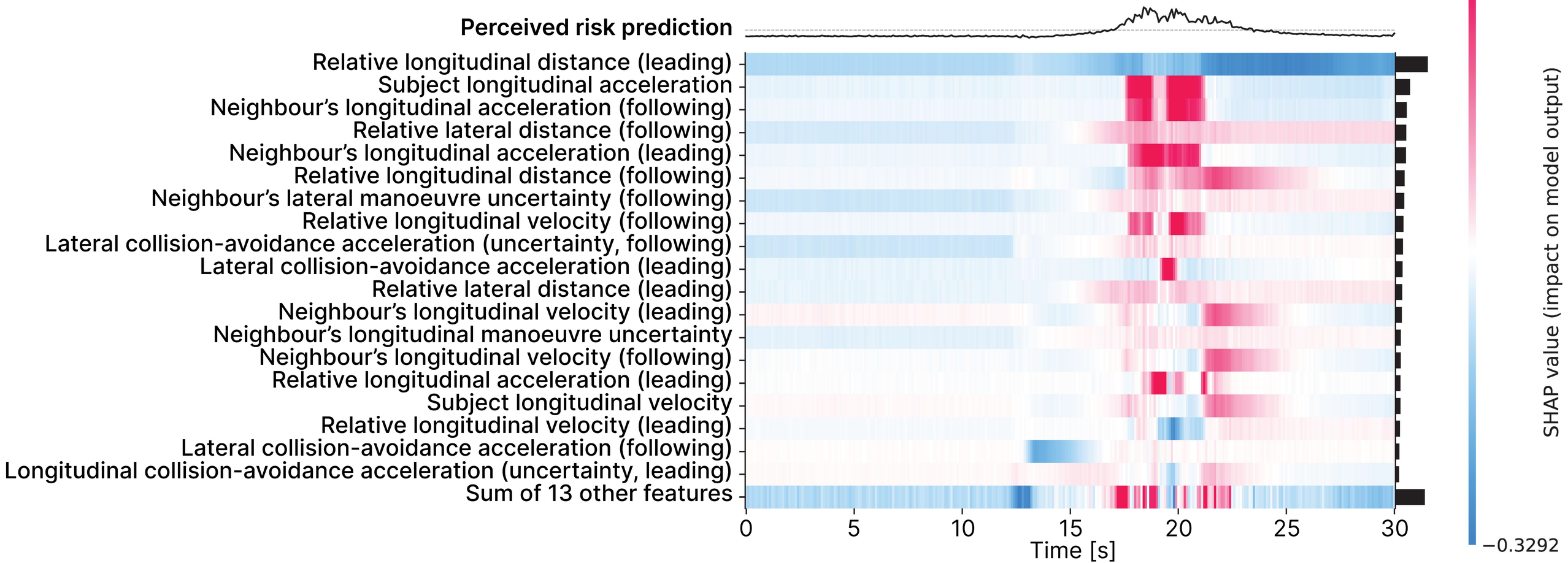
SVM22


Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (following)
Relative longitudinal distance (following)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal acceleration (leading)
Relative lateral distance (leading)
Neighbour's longitudinal velocity (leading)
Subject longitudinal velocity
Relative longitudinal velocity (following)
Neighbour's longitudinal acceleration (following)
Relative lateral velocity (following)
Subject lateral velocity
Neighbour's lateral manoeuvre uncertainty (leading)
Relative longitudinal velocity (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Subject longitudinal manoeuvre uncertainty (leading)
Relative lateral velocity (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.555
−0.555
SHAP value (impact on model output)

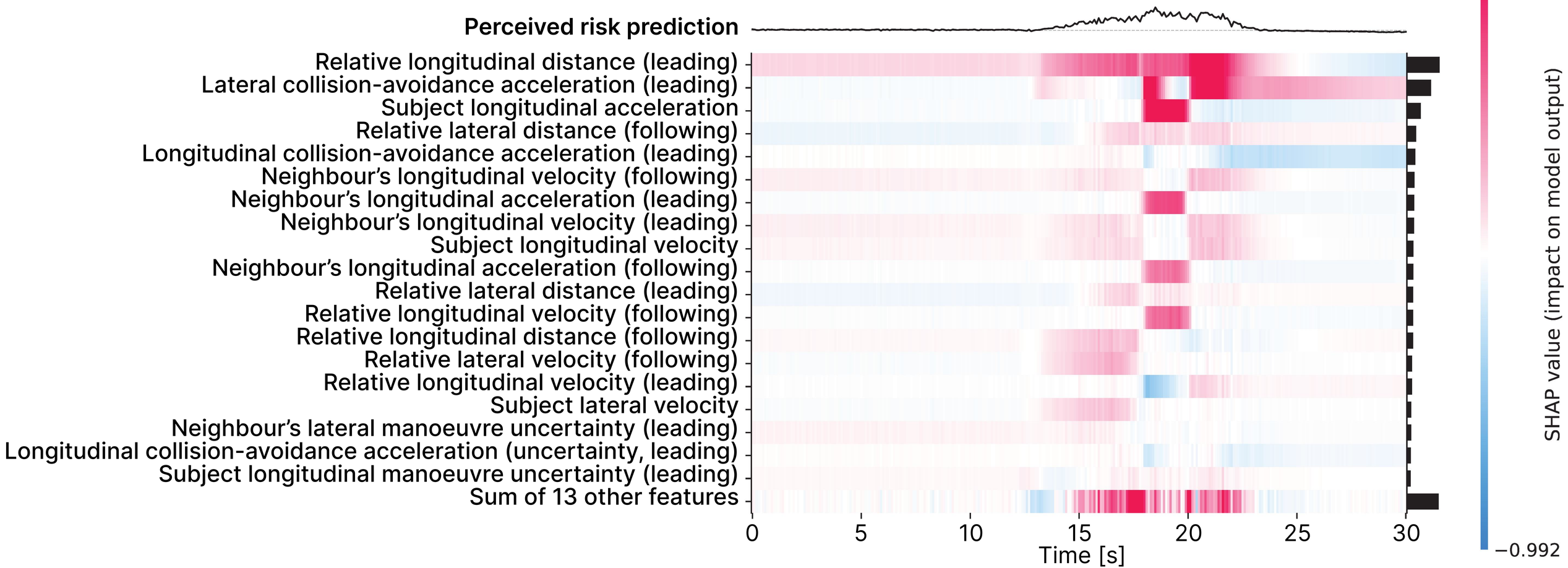
SVM23


Perceived risk prediction
Subject longitudinal acceleration
Relative longitudinal distance (leading)
Relative lateral distance (following)
Neighbour's longitudinal acceleration (leading)
Neighbour's longitudinal acceleration (following)
Relative lateral distance (leading)
Relative longitudinal velocity (following)
Relative longitudinal distance (following)
Neighbour's lateral manoeuvre uncertainty (following)
Lateral collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Relative lateral velocity (following)
Relative longitudinal velocity (leading)
Subject longitudinal velocity
Subject lateral velocity
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Relative lateral velocity (leading)
Longitudinal collision-avoidance acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.3637
−0.3637
SHAP value (impact on model output)

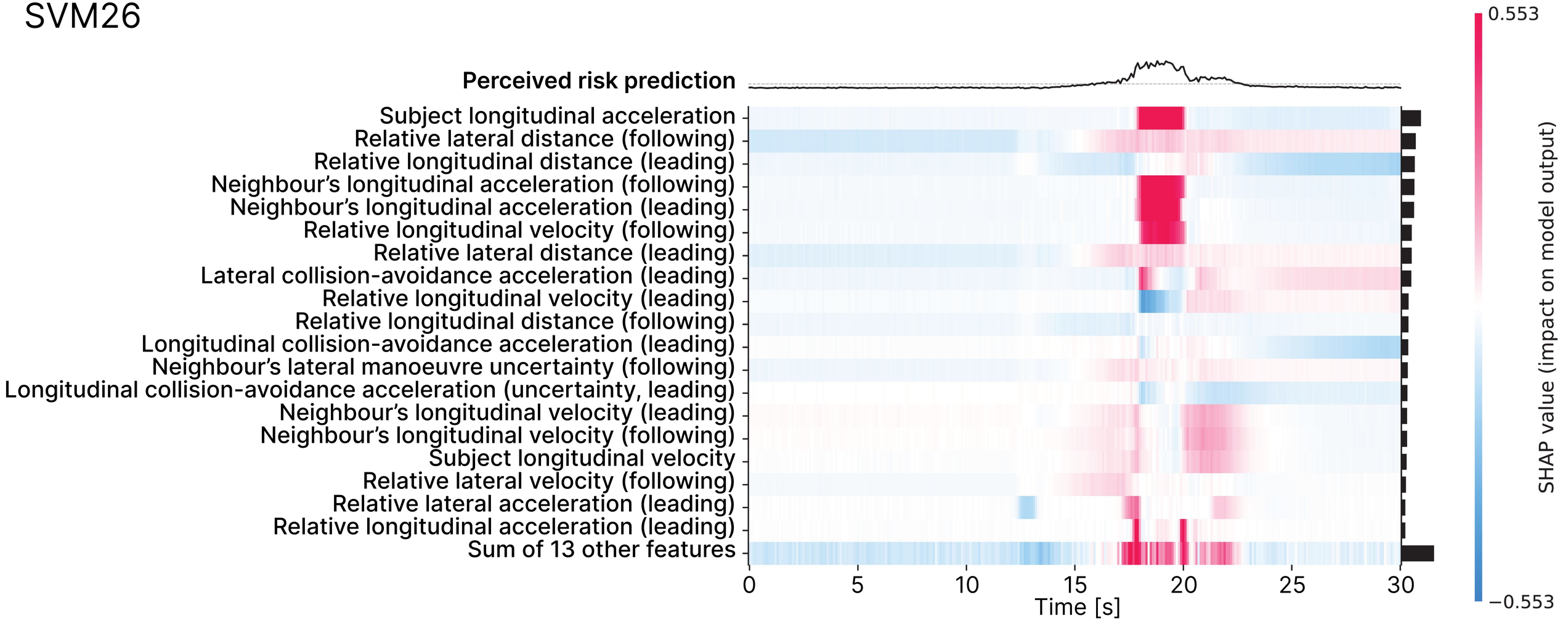
SVM24


Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration (following)
Relative lateral distance (following)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal distance (following)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal velocity (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Lateral collision-avoidance acceleration (leading)
Relative lateral distance (leading)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal manoeuvre uncertainty
Neighbour's longitudinal velocity (following)
Relative longitudinal acceleration (leading)
Subject longitudinal velocity
Relative longitudinal velocity (leading)
Lateral collision-avoidance acceleration (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.3292
−0.3292
SHAP value (impact on model output)

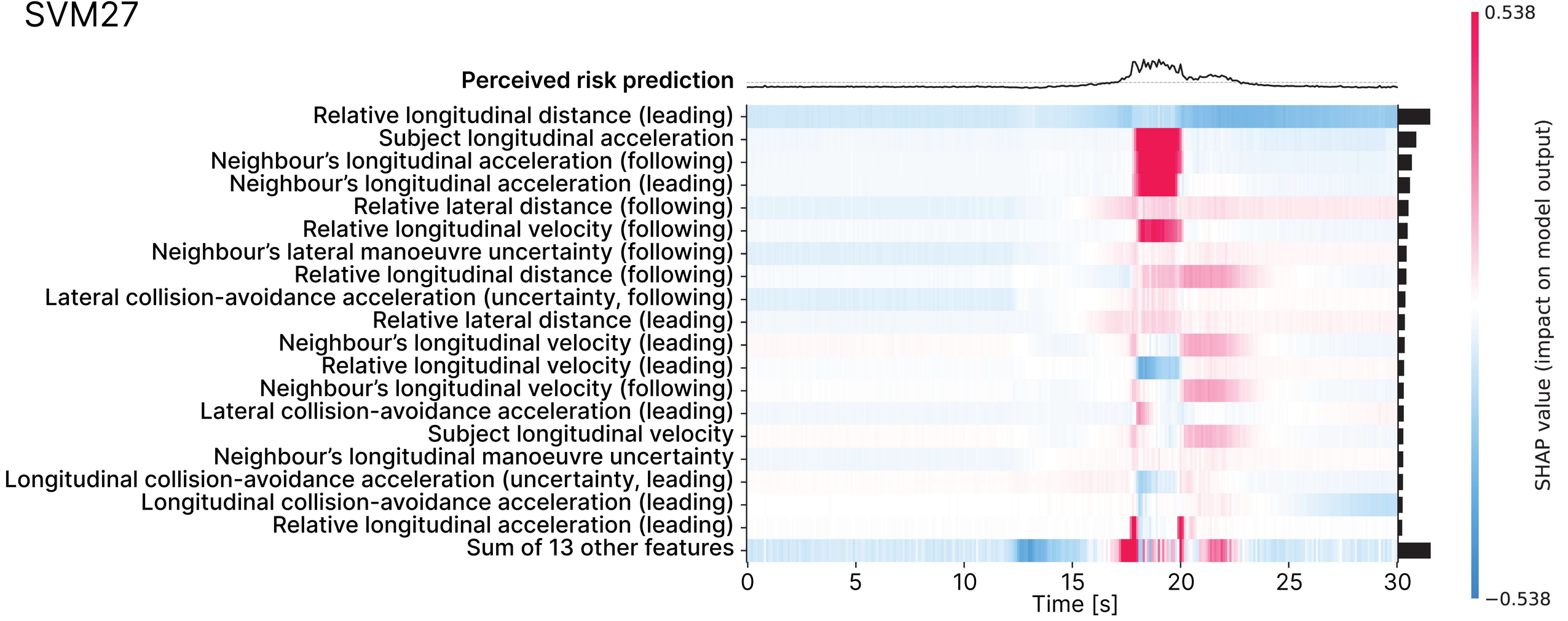
SVM25


Perceived risk prediction
Relative longitudinal distance (leading)
Lateral collision-avoidance acceleration (leading)
Subject longitudinal acceleration
Relative lateral distance (following)
Longitudinal collision-avoidance acceleration (leading)
Neighbour's longitudinal velocity (following)
Neighbour's longitudinal acceleration (leading)
Neighbour's longitudinal velocity (leading)
Subject longitudinal velocity
Neighbour's longitudinal acceleration (following)
Relative lateral distance (leading)
Relative longitudinal velocity (following)
Relative longitudinal distance (following)
Relative lateral velocity (following)
Relative longitudinal velocity (leading)
Subject lateral velocity
Neighbour's lateral manoeuvre uncertainty (leading)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Subject longitudinal manoeuvre uncertainty (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.992
−0.992
SHAP value (impact on model output)

SVM26


Perceived risk prediction
Subject longitudinal acceleration
Relative lateral distance (following)
Relative longitudinal distance (leading)
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Relative longitudinal velocity (following)
Relative lateral distance (leading)
Lateral collision-avoidance acceleration (leading)
Relative longitudinal velocity (leading)
Relative longitudinal distance (following)
Longitudinal collision-avoidance acceleration (leading)
Neighbour's lateral manoeuvre uncertainty (following)
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Neighbour's longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Subject longitudinal velocity
Relative lateral velocity (following)
Relative lateral acceleration (leading)
Relative longitudinal acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.553
−0.553
SHAP value (impact on model output)

SVM27


Perceived risk prediction
Relative longitudinal distance (leading)
Subject longitudinal acceleration
Neighbour's longitudinal acceleration (following)
Neighbour's longitudinal acceleration (leading)
Relative lateral distance (following)
Relative longitudinal velocity (following)
Neighbour's lateral manoeuvre uncertainty (following)
Relative longitudinal distance (following)
Lateral collision-avoidance acceleration (uncertainty, following)
Relative lateral distance (leading)
Neighbour's longitudinal velocity (leading)
Relative longitudinal velocity (leading)
Neighbour's longitudinal velocity (following)
Lateral collision-avoidance acceleration (leading)
Subject longitudinal velocity
Neighbour's longitudinal manoeuvre uncertainty
Longitudinal collision-avoidance acceleration (uncertainty, leading)
Longitudinal collision-avoidance acceleration (leading)
Relative longitudinal acceleration (leading)
Sum of 13 other features
0
5
10
15
20
25
30
Time [s]
0.538
−0.538
SHAP value (impact on model output)