

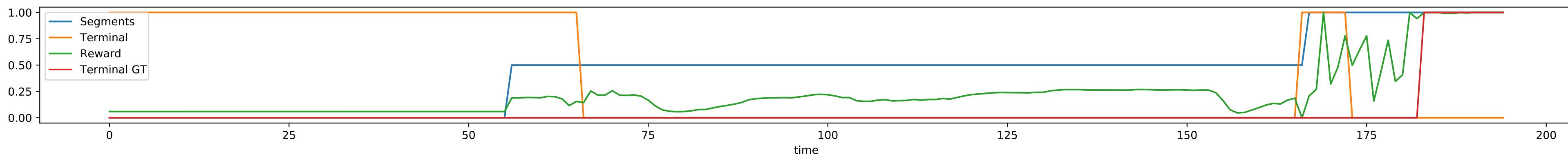
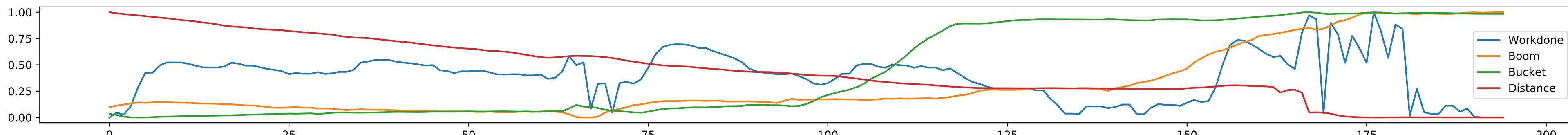
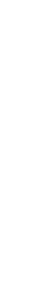
Learning Reward from Demonstrations w/sensors ($R_{\max} = 1600$)

Training Data		Sensor Values	Clustering & Classification	Reward
80 % of positive demos: mix of winter and autumn	Boom angle, Bucket angle, Distance to the pile, Segment, Reward	Difference R_{\max} and Distance to the next cluster center	K-means clustering and KNN Classifier	20 % of positive demos: mix of winter and autumn

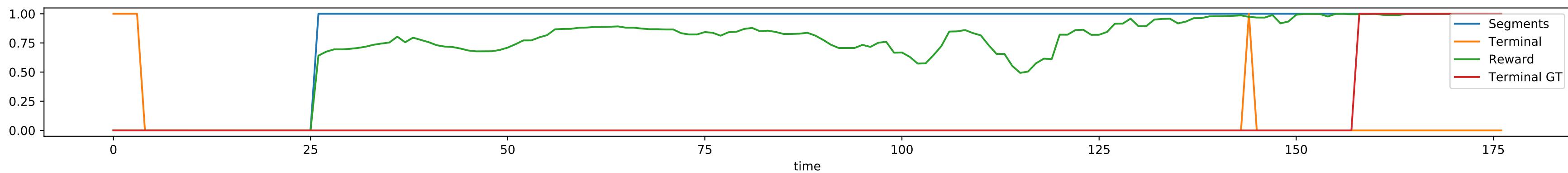
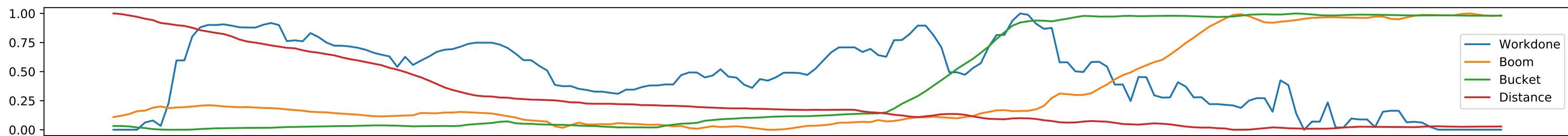
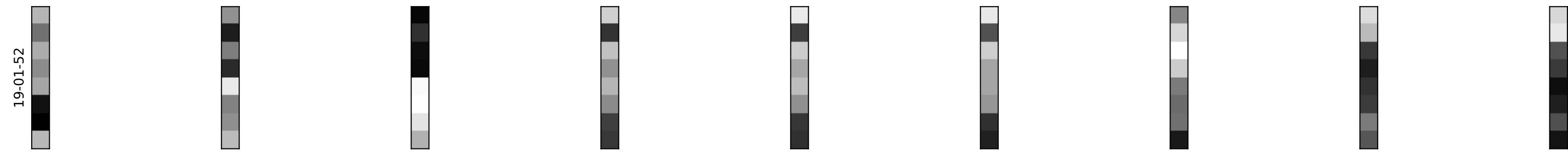
autumn - 16-23-38



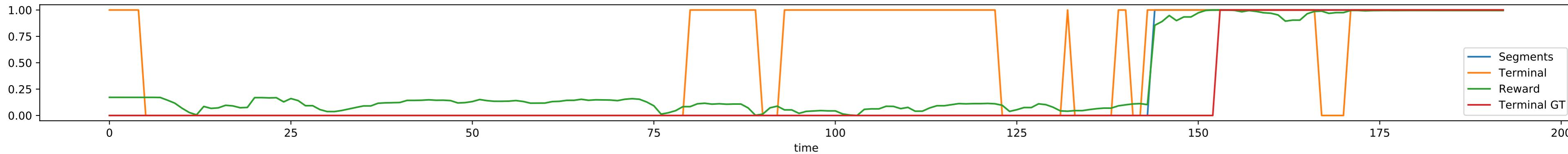
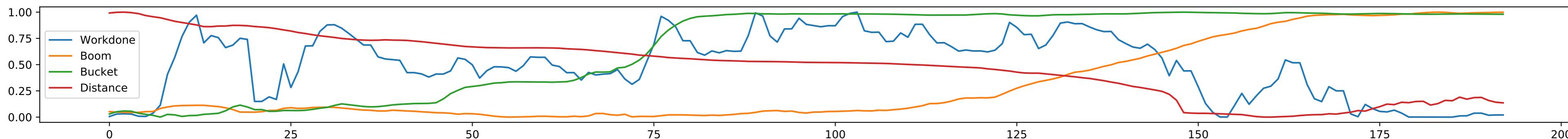
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autumn - 19-01-52



autumn - 16-39-57

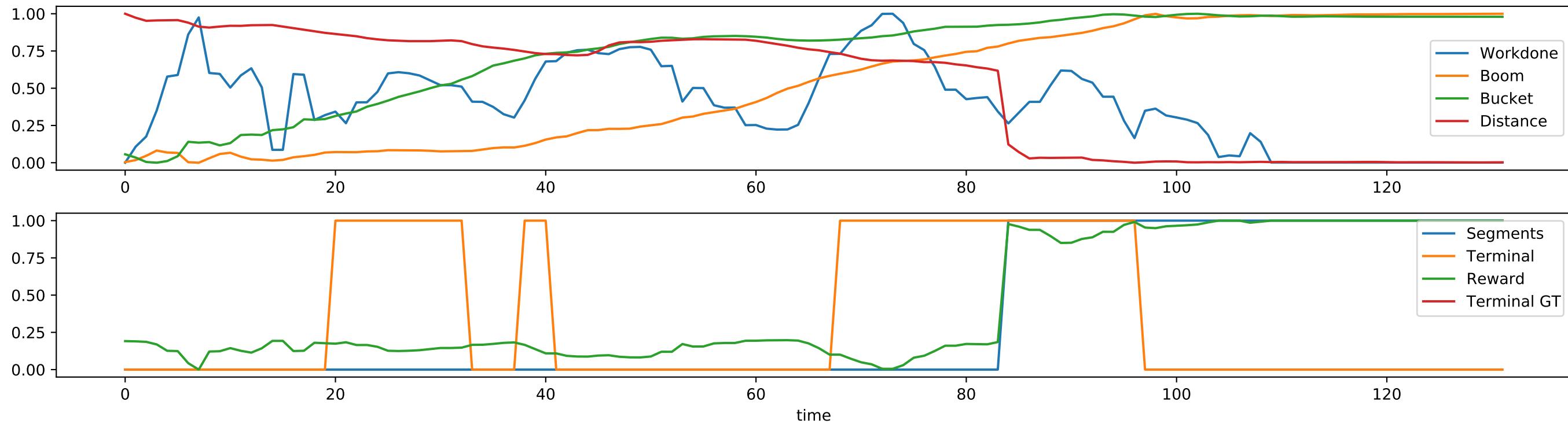
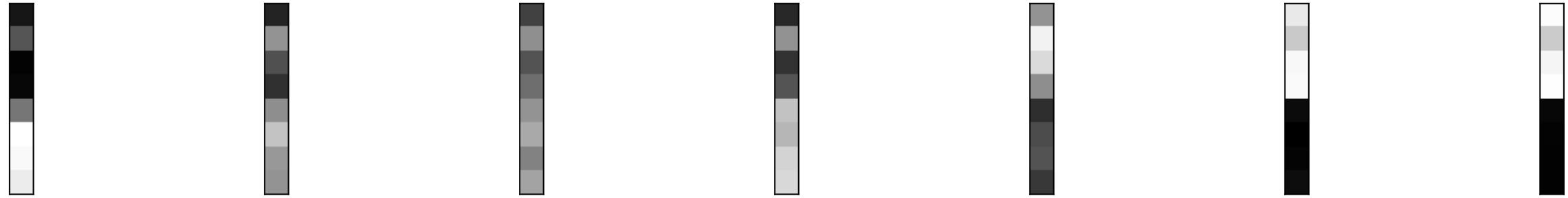


autumn - 16-26-13

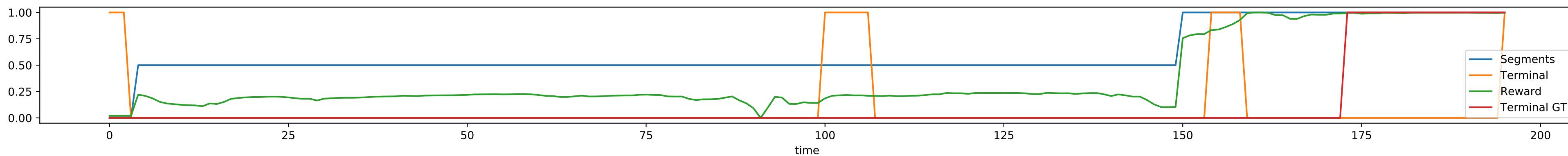
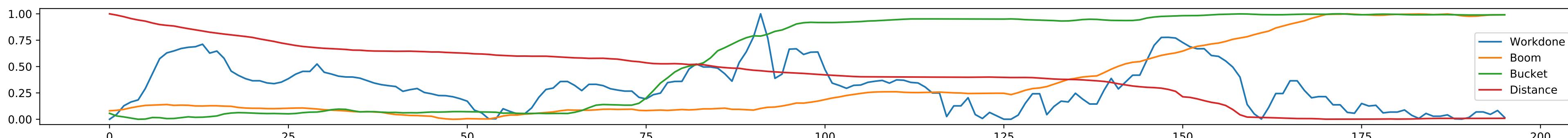
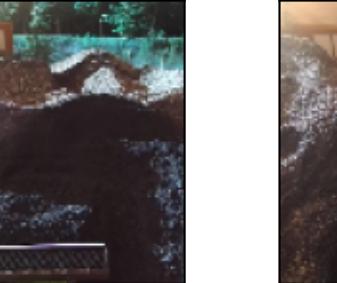
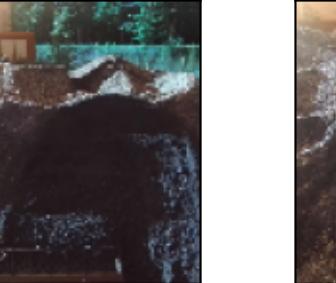
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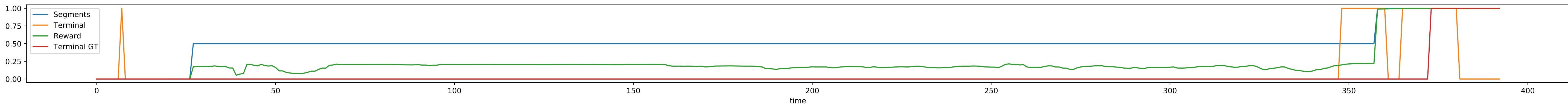
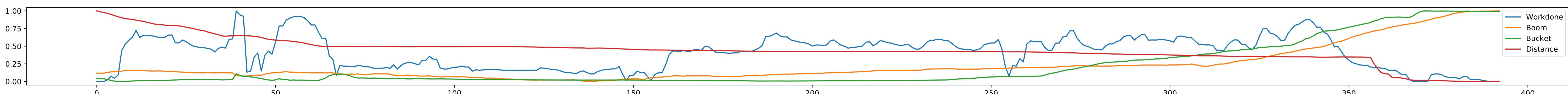
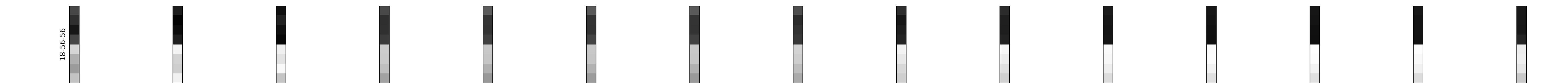


16-26-13

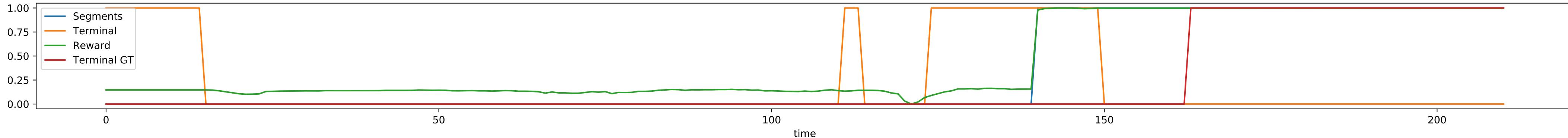
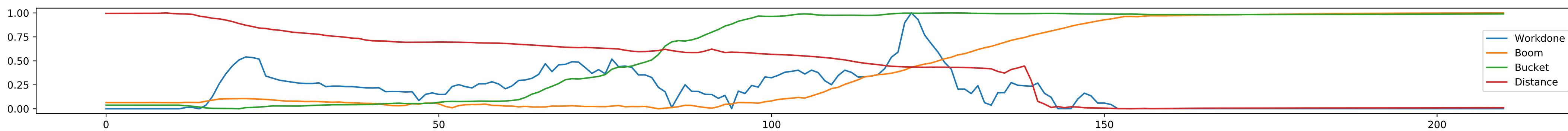
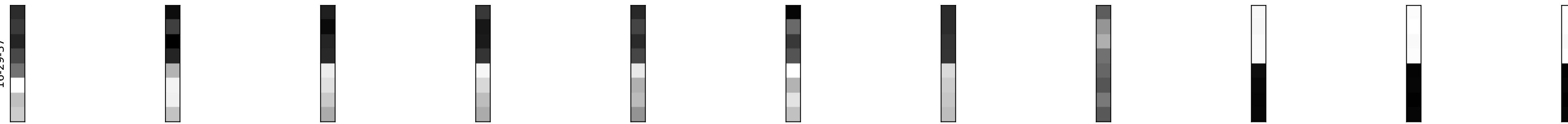


autumn - 16-31-52

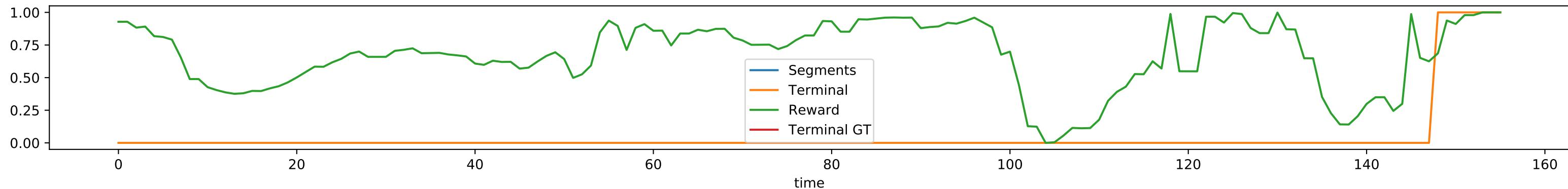
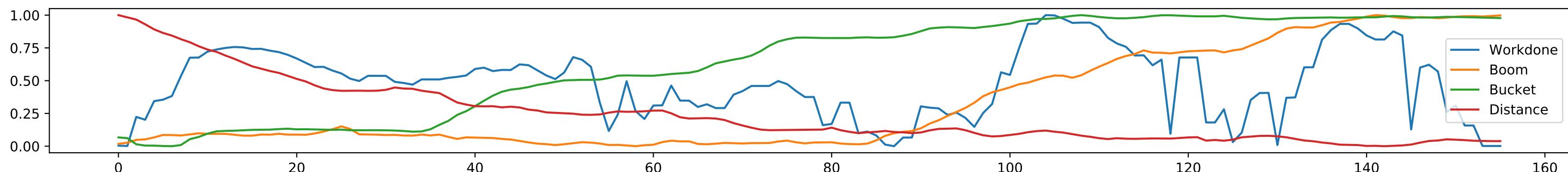




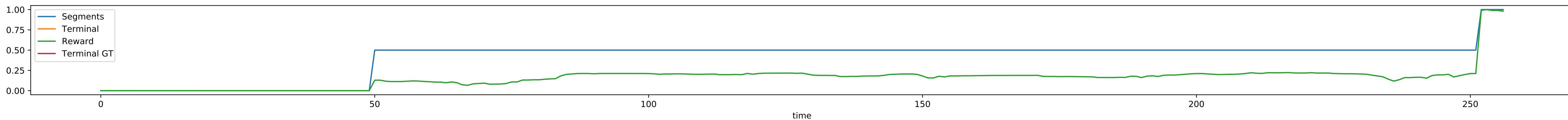
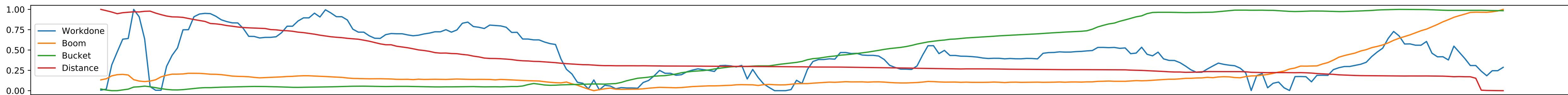
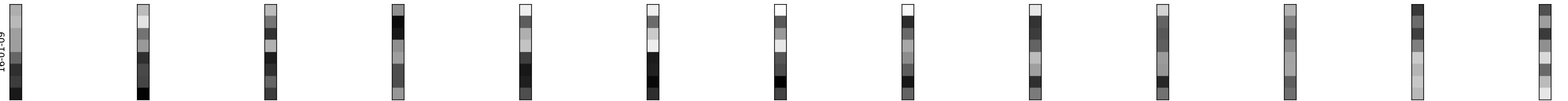
autumn - 16-29-37



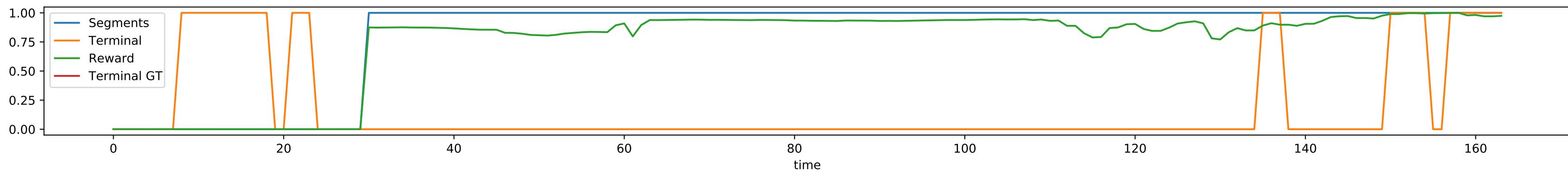
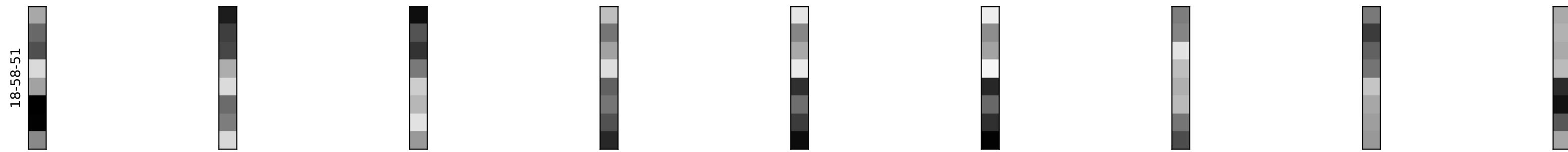
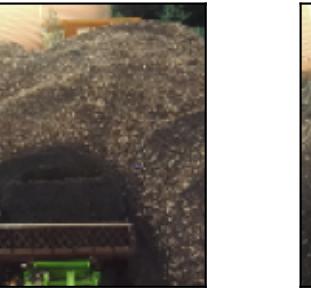
autumn - 16-27-12



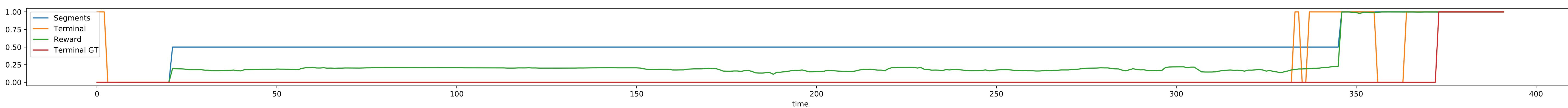
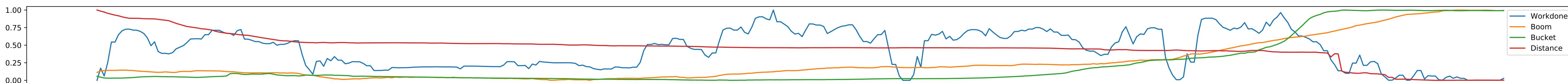
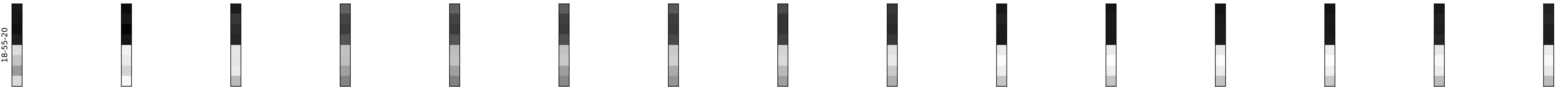
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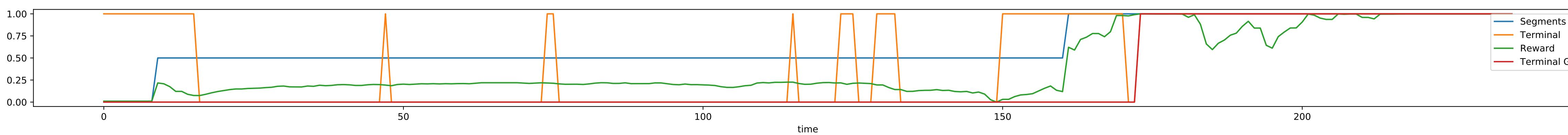
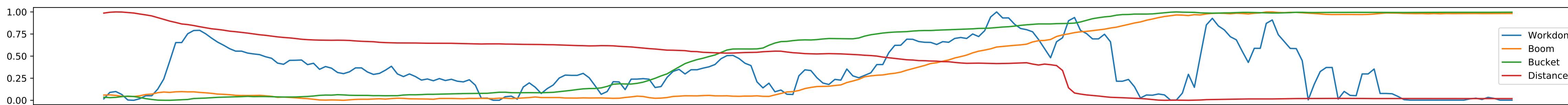
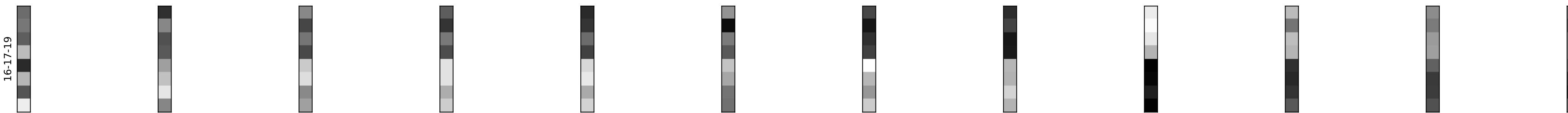
autumn - 18-58-51



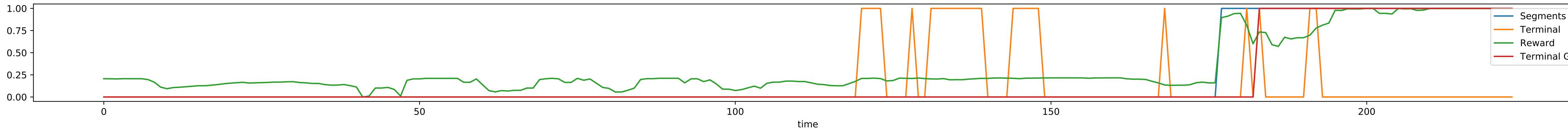
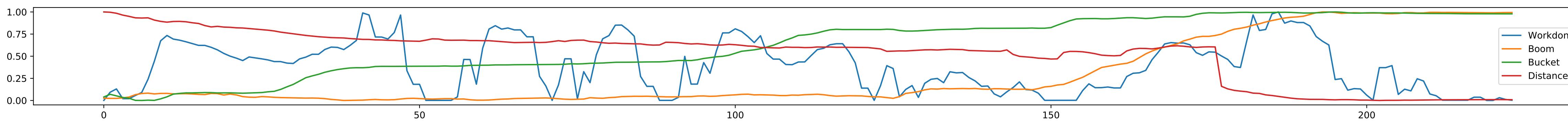
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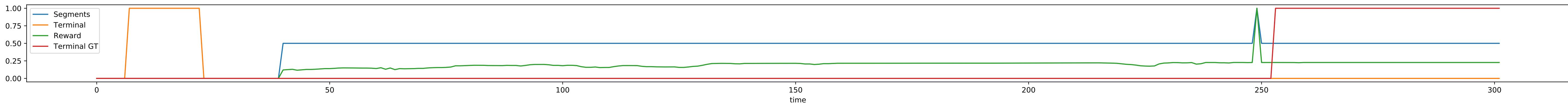
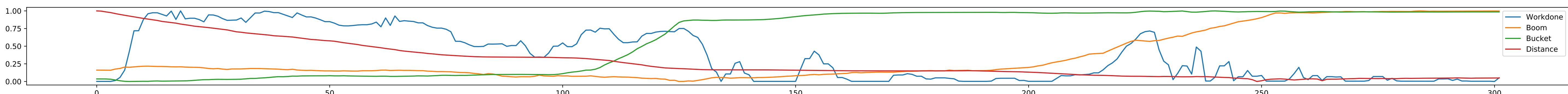
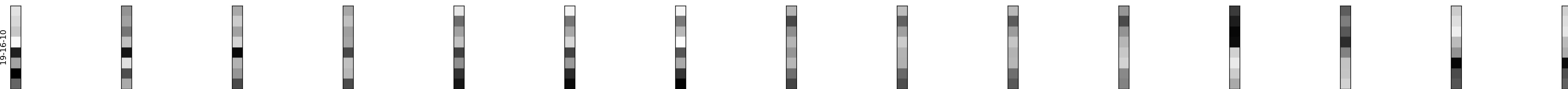


autumn - 16-17-19

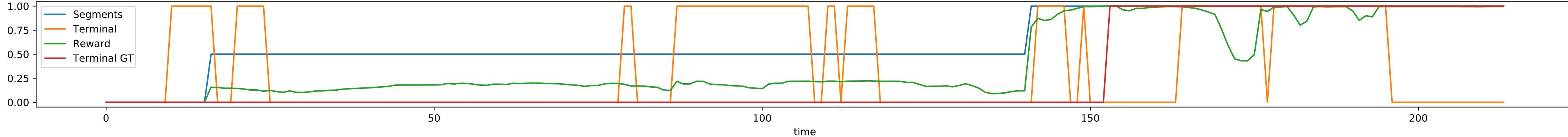
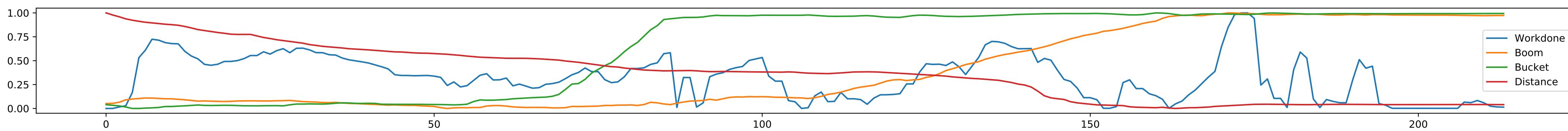
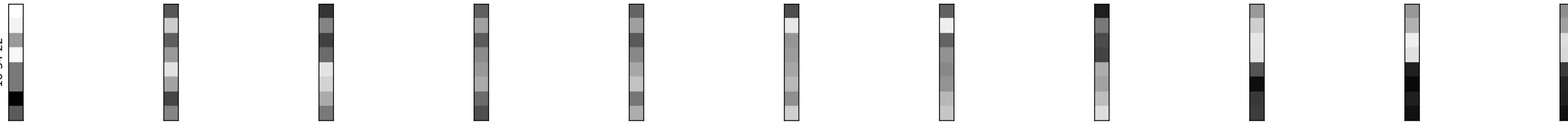


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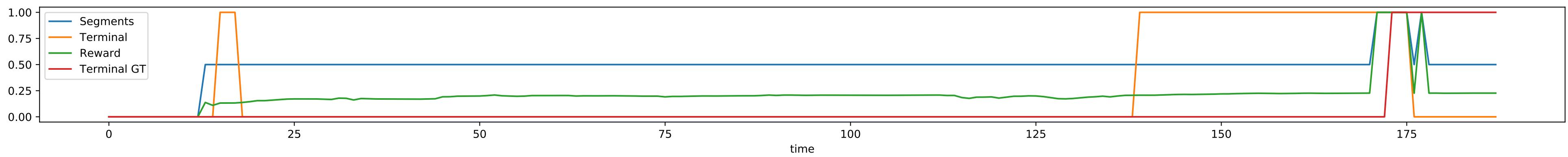
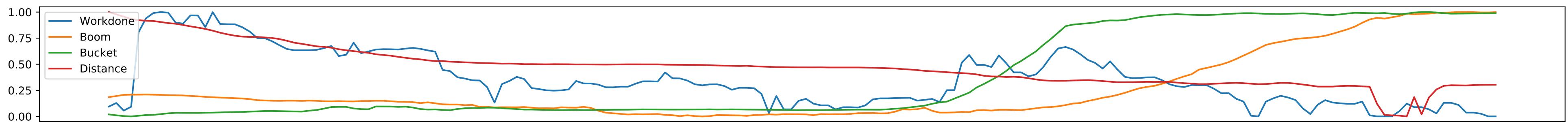
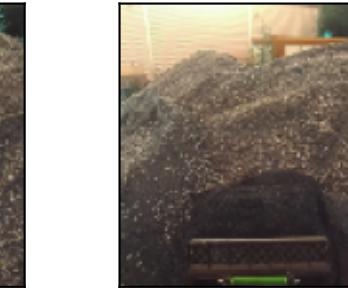




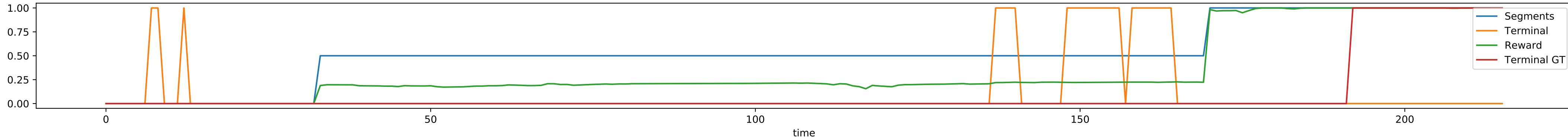
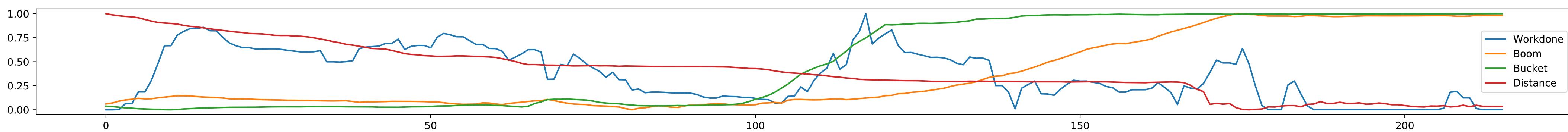
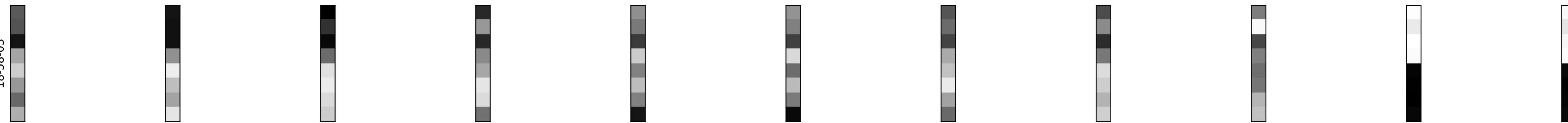
autumn - 16-34-22



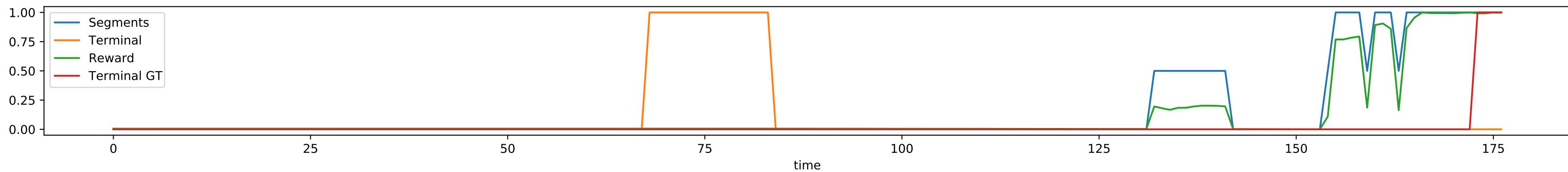
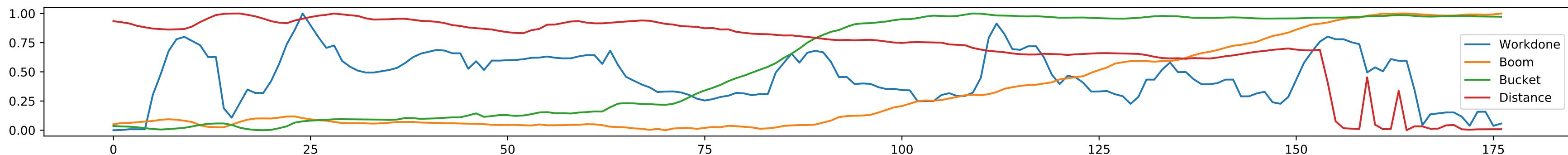
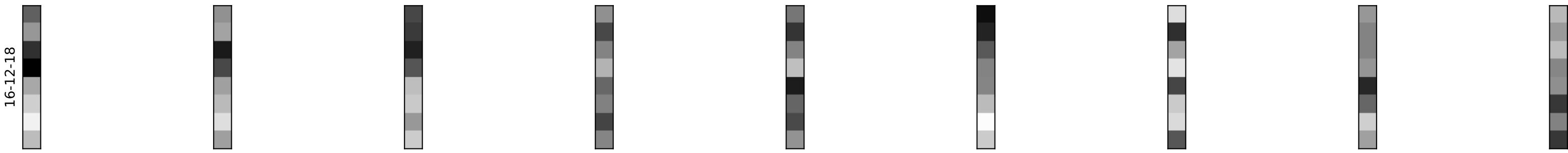
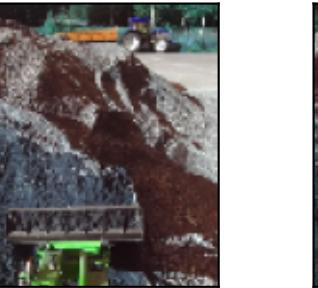
autumn - 18-54-34



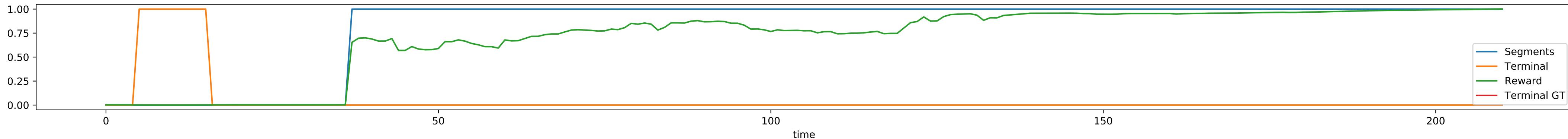
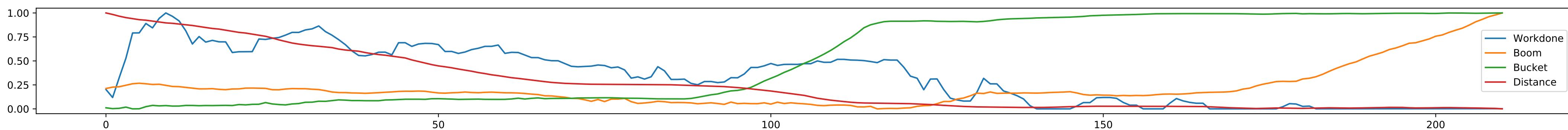
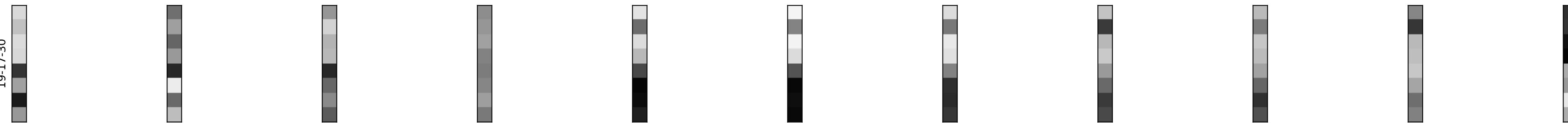
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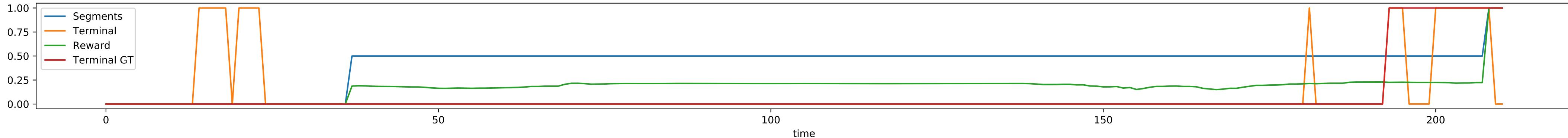
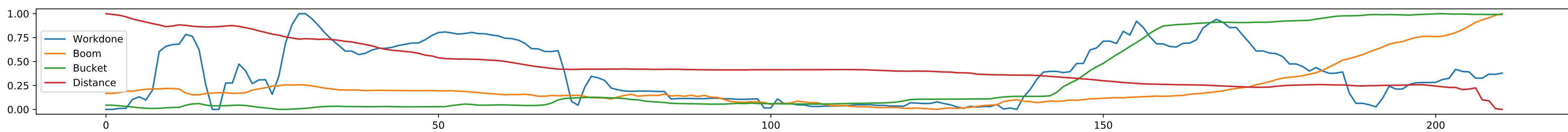
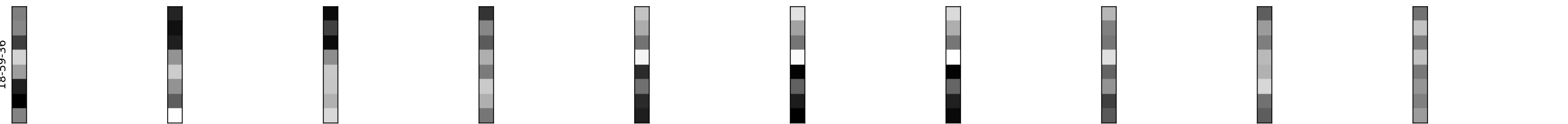
autumn - 16-12-18



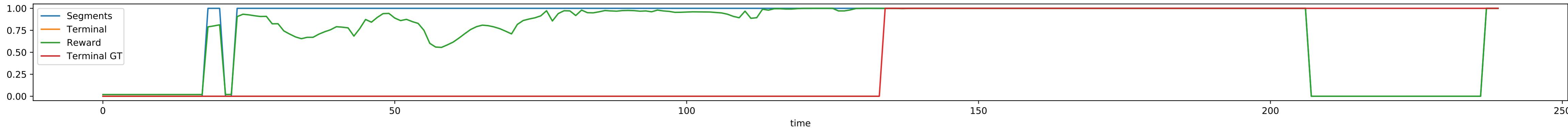
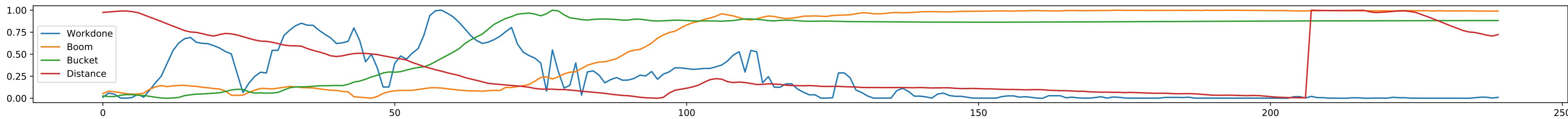
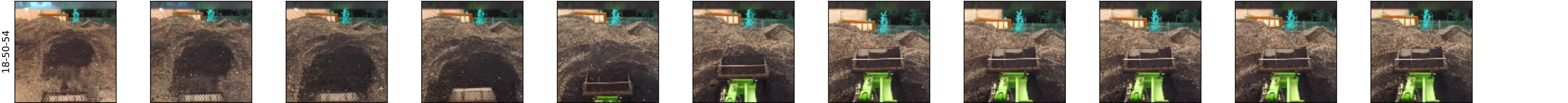
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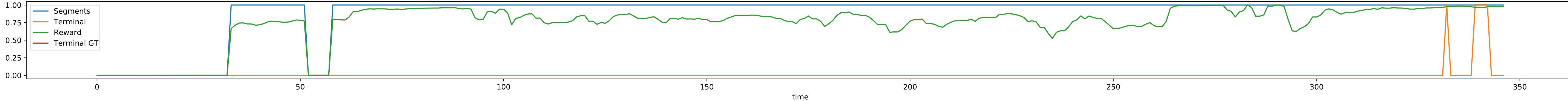
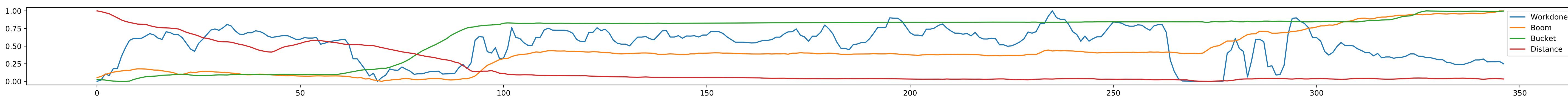
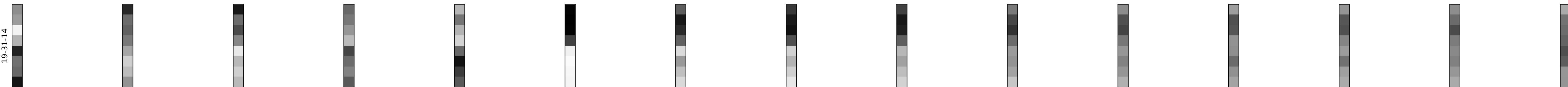
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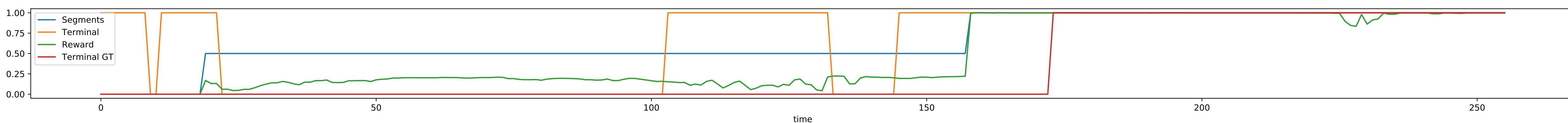
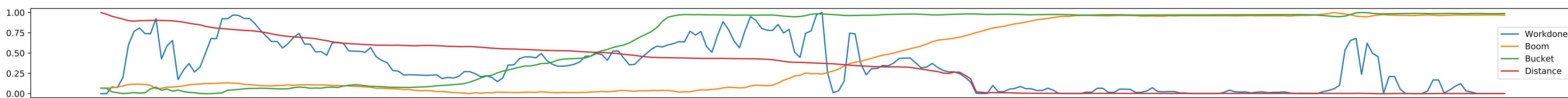
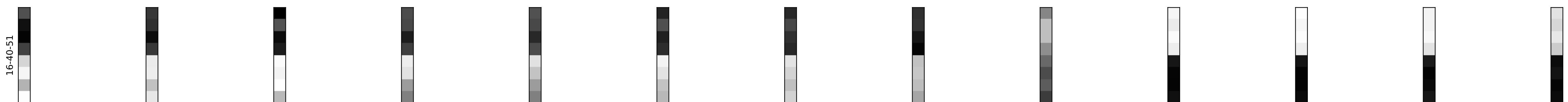


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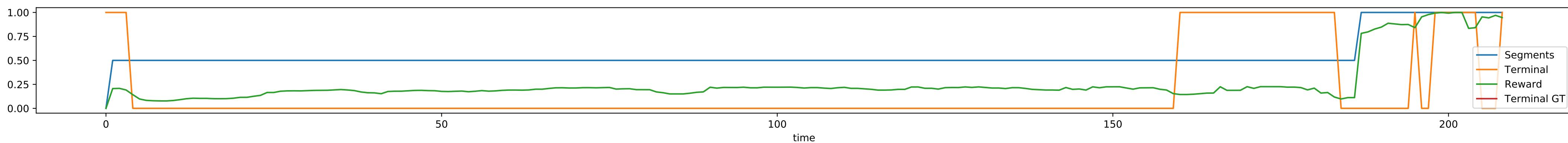
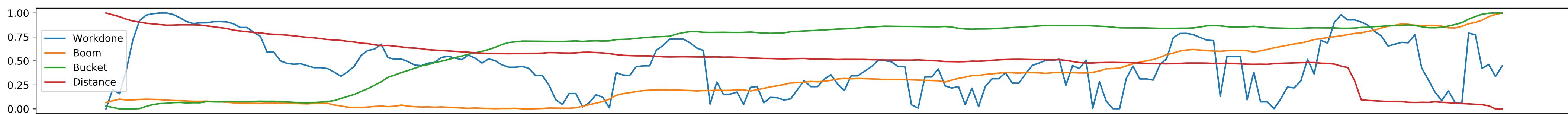
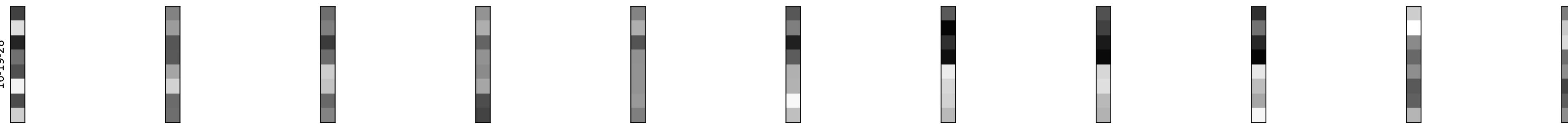


autumn - 19-31-14

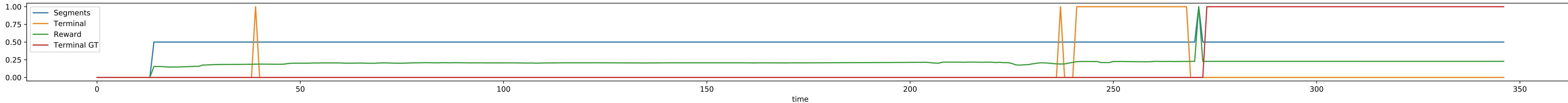
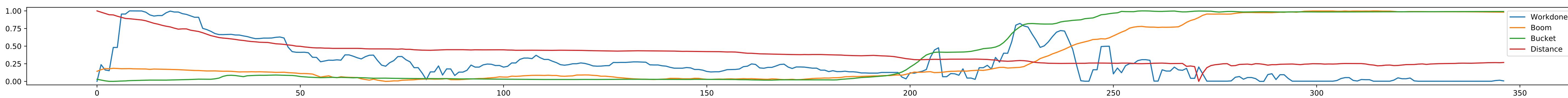
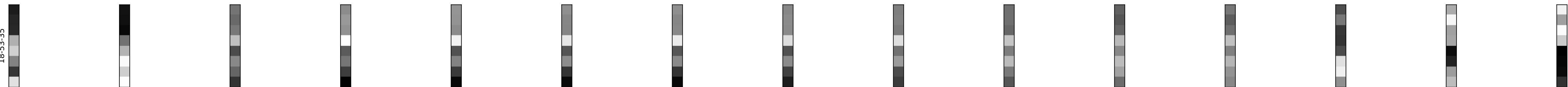




autumn - 16-19-28

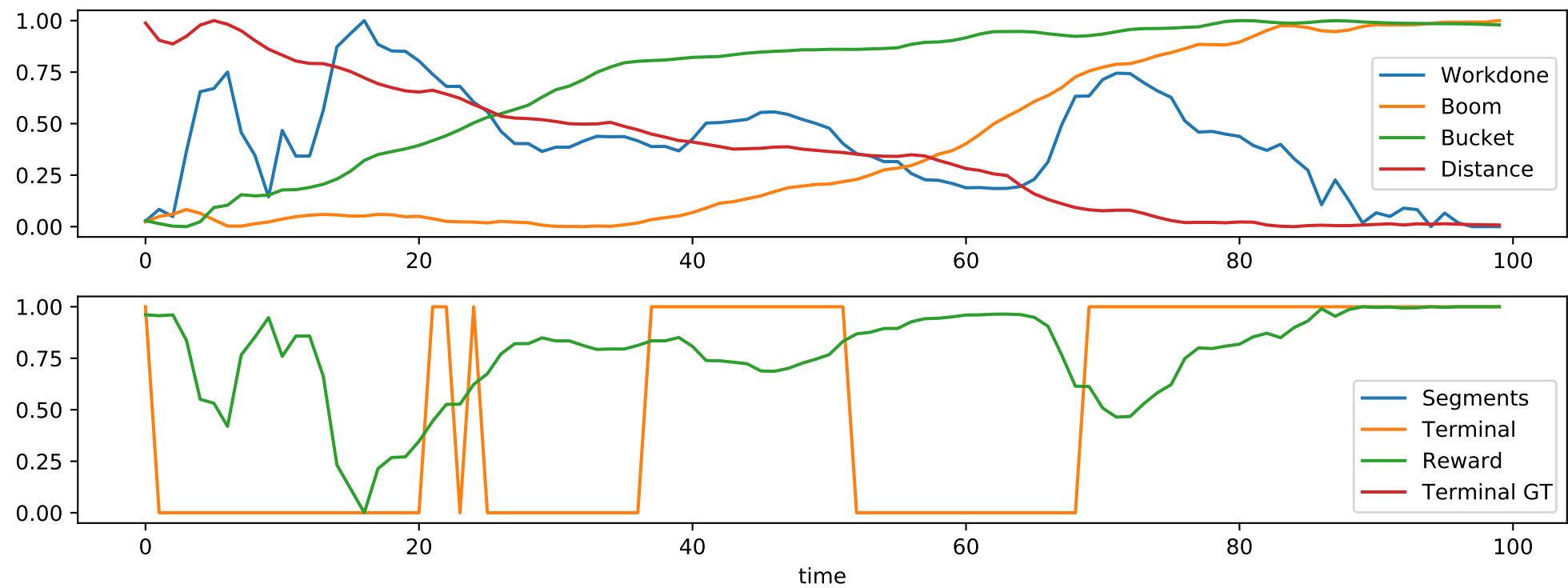
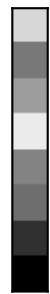
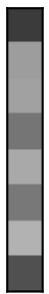


autumn - 18-53-35

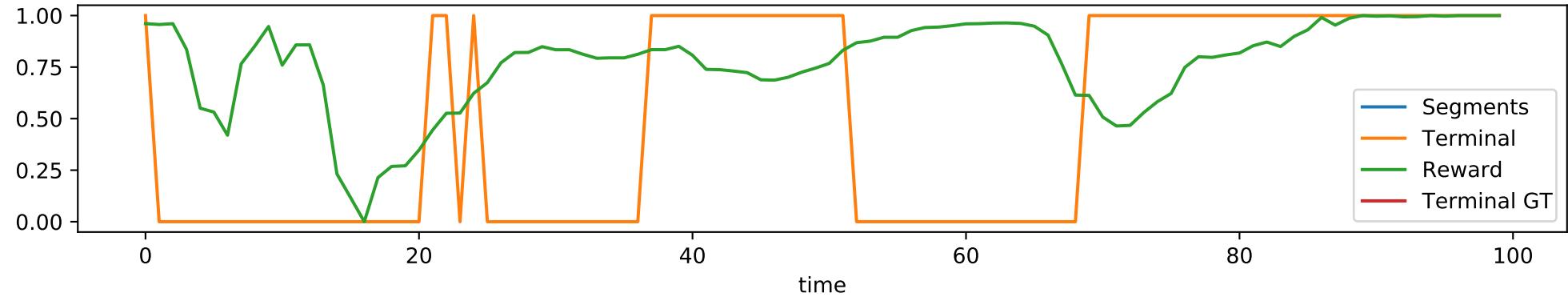


autumn - 16-18-15

16-18-15



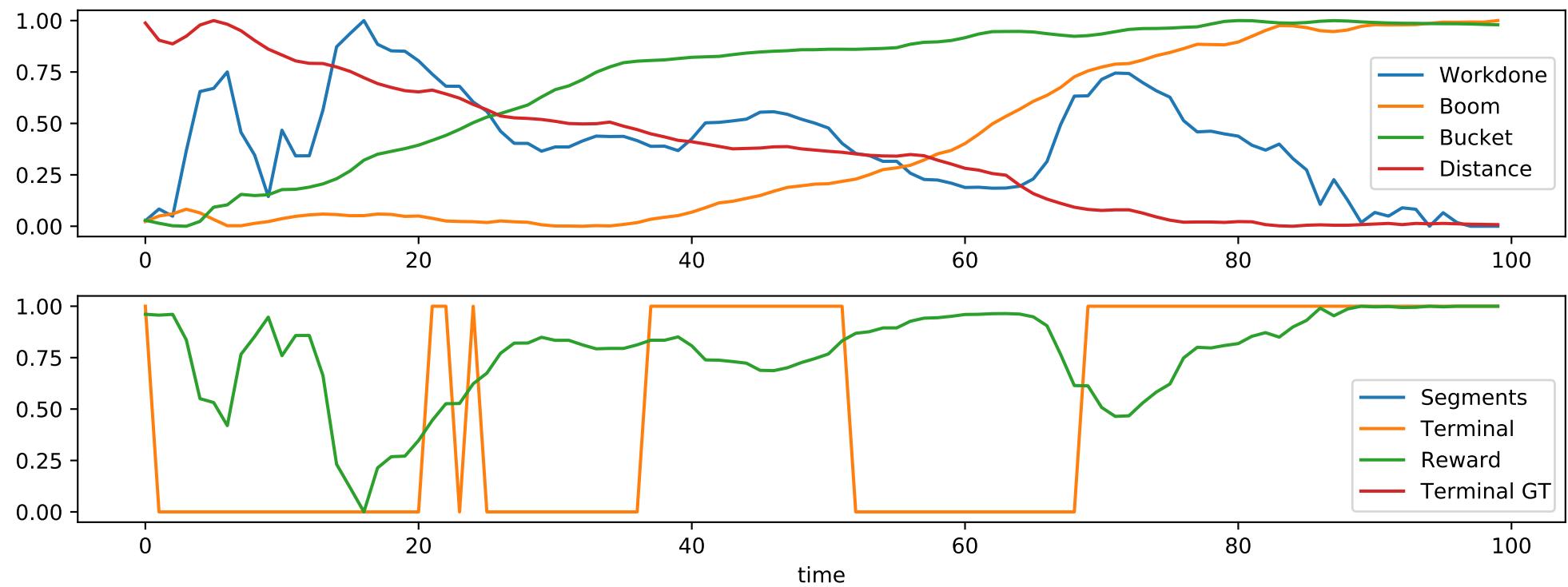
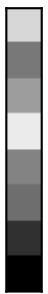
Workdone
Boom
Bucket
Distance



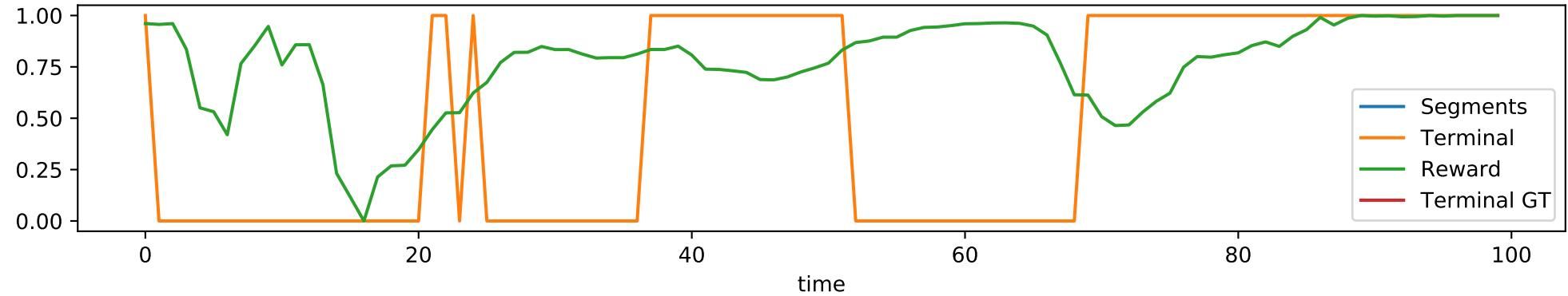
Segments
Terminal
Reward
Terminal GT

autumn - 16-18-15

16-18-15



Workdone
Boom
Bucket
Distance



Segments
Terminal
Reward
Terminal GT