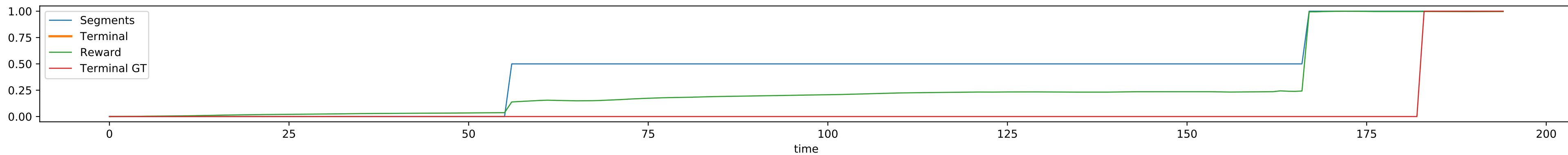
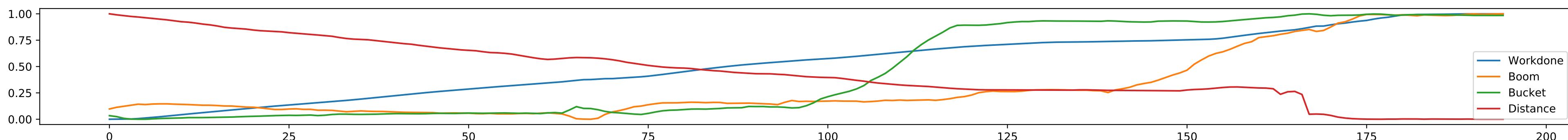


# Learning Reward from Demonstrations \w sensors+vision (R<sub>max</sub>=1600)

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 <sub>max</sub> and Distance to the next cluster center	K-means clustering and KNN Classifier	20 % of positive demos: mix of winter and autumn

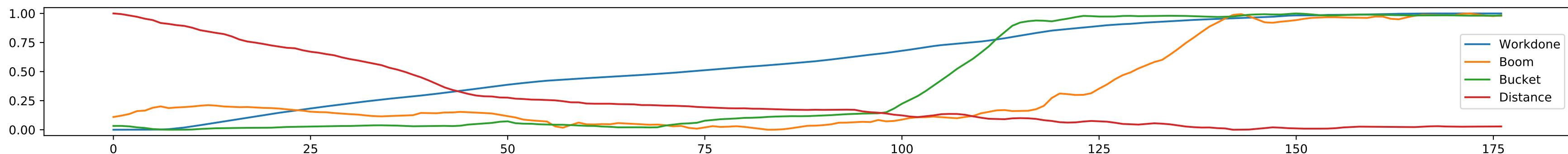
autumn - 16-23-38



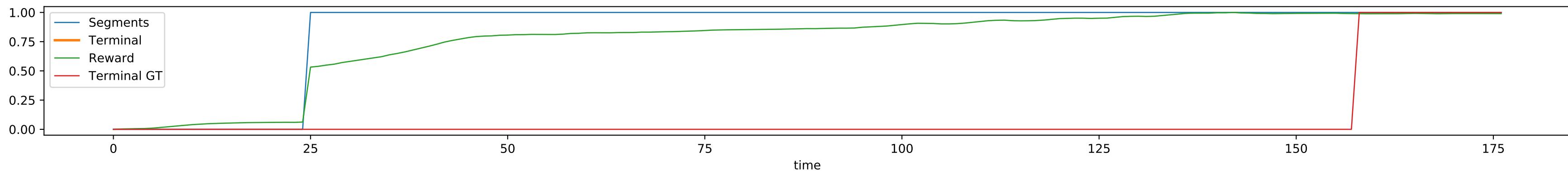
autumn - 19-01-52



19-01-52



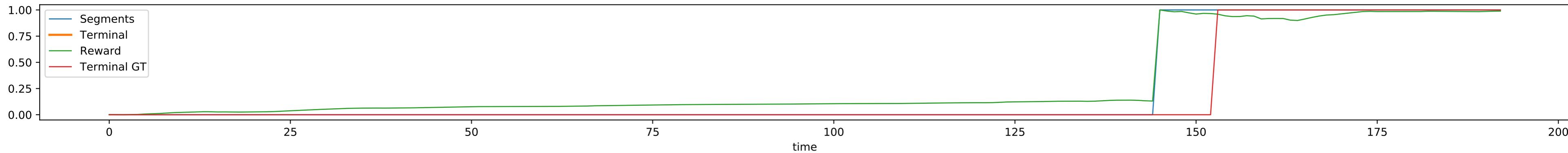
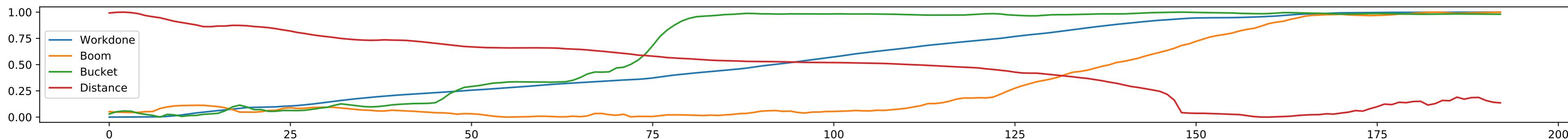
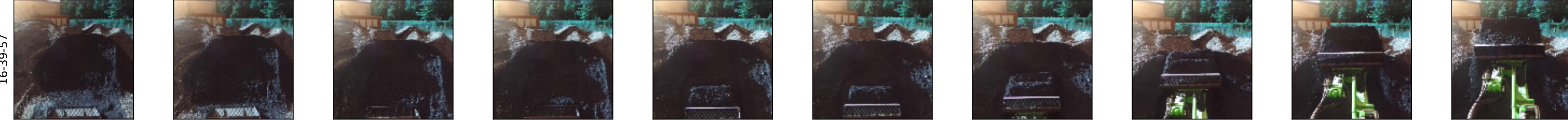
Workdone  
Boom  
Bucket  
Distance



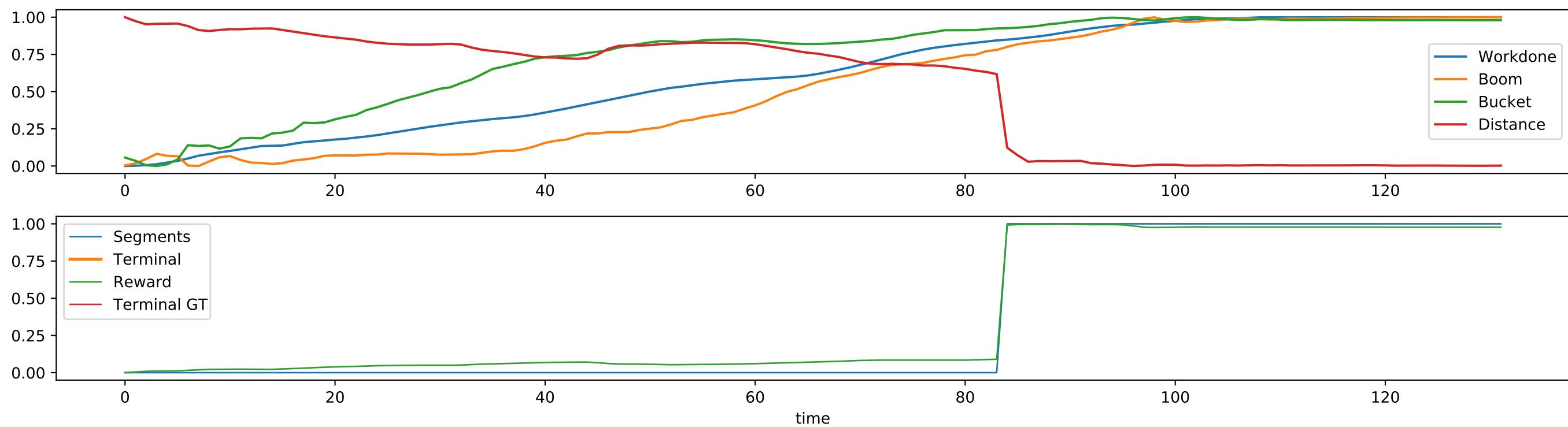
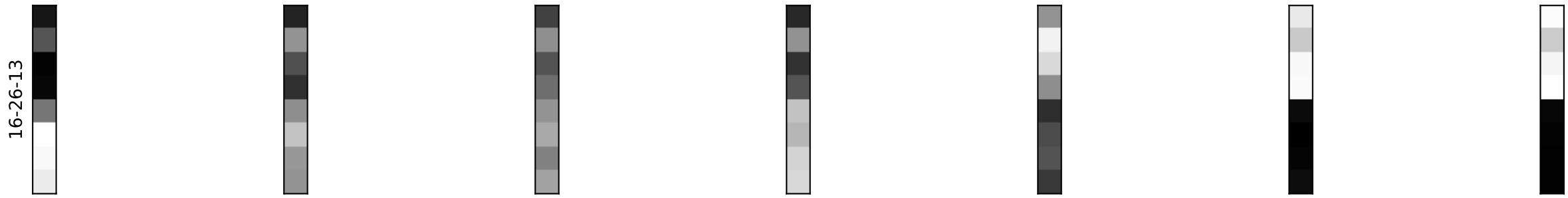
Segments  
Terminal  
Reward  
Terminal GT

time

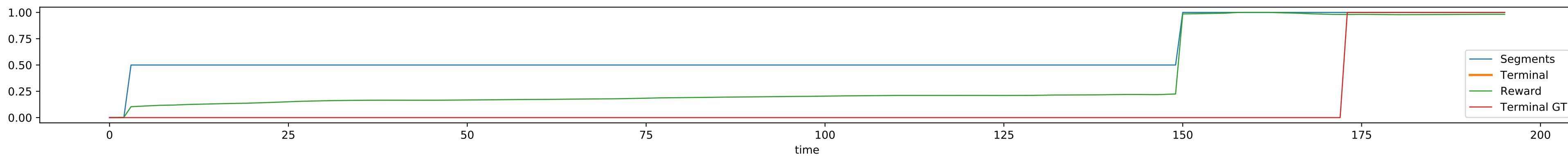
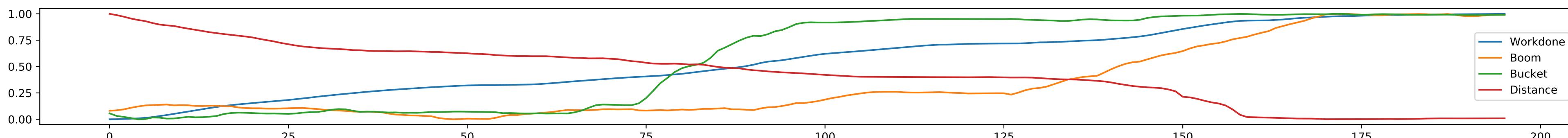
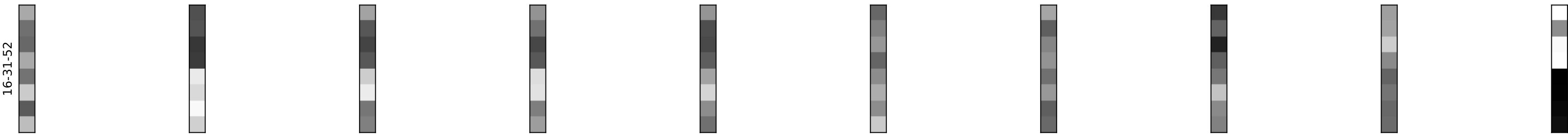
autumn - 16-39-57



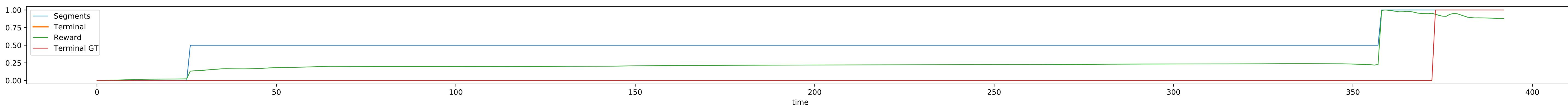
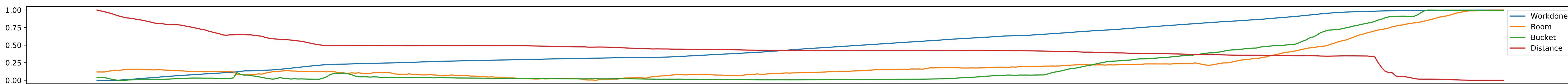
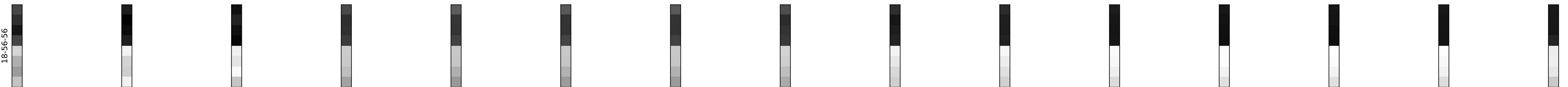
autumn - 16-26-13



autumn - 16-31-52



autumn - 18-56-56

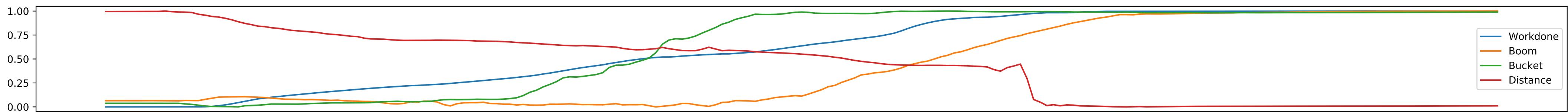
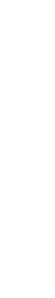


autumn - 16-29-37

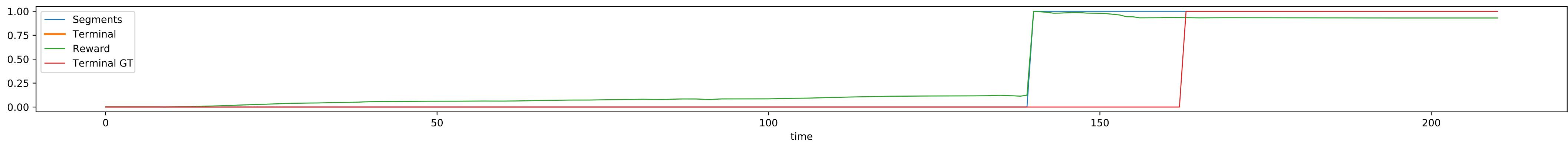
16-29-37



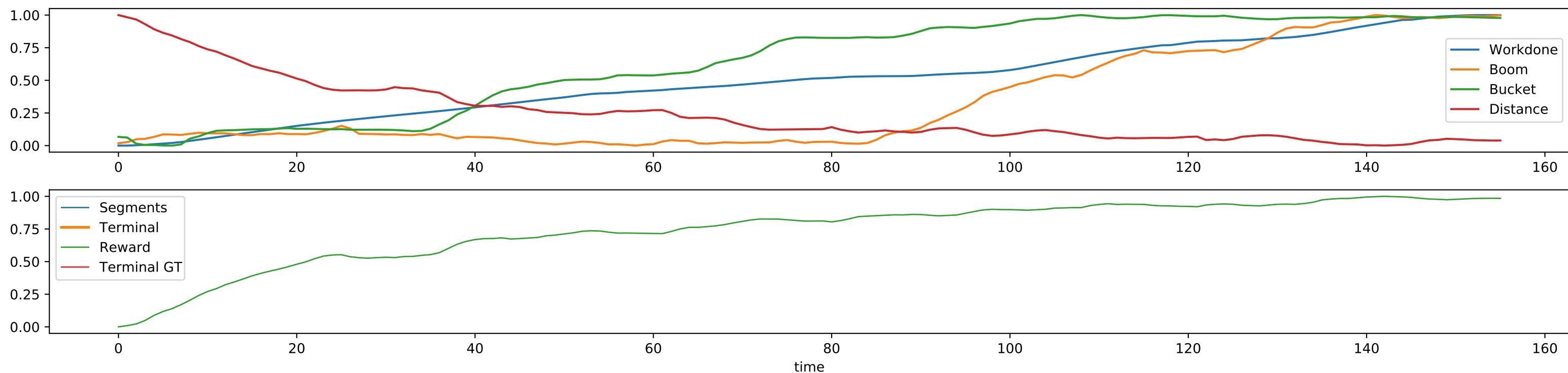
16-29-37



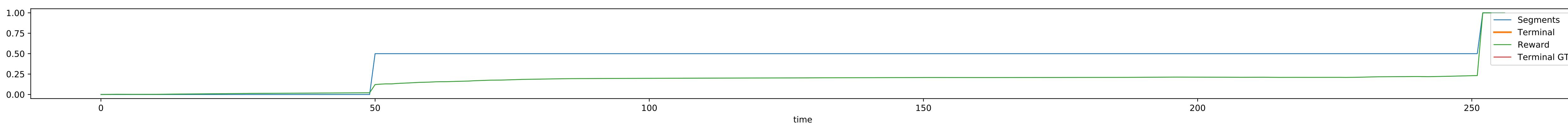
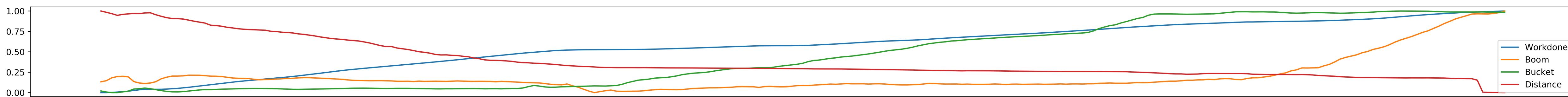
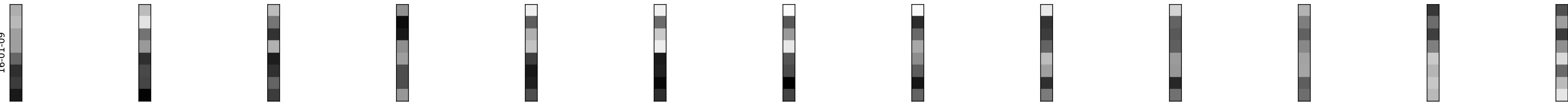
Segments  
Terminal  
Reward  
Terminal GT



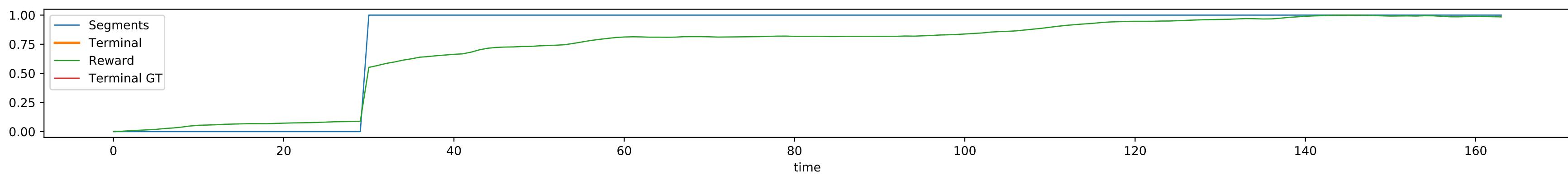
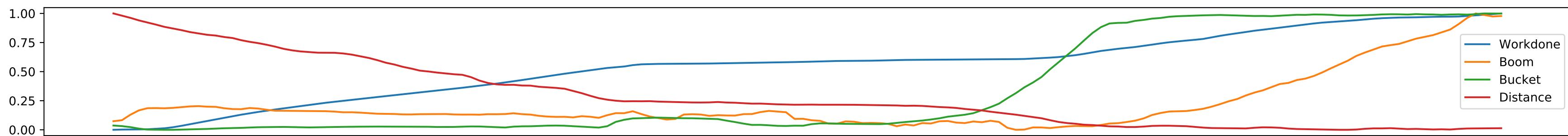
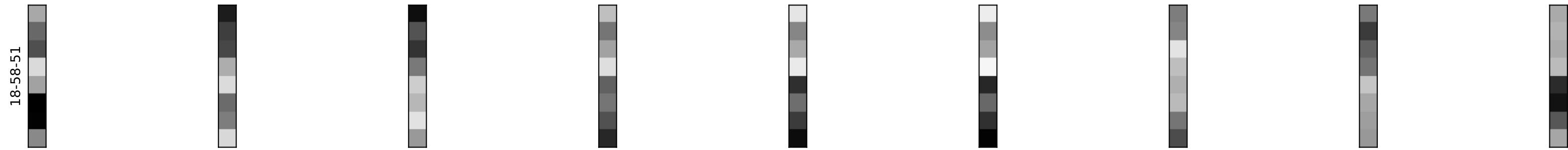
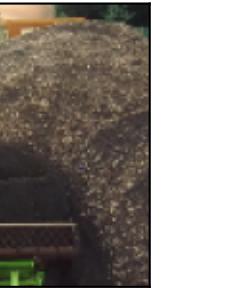
autumn - 16-27-12



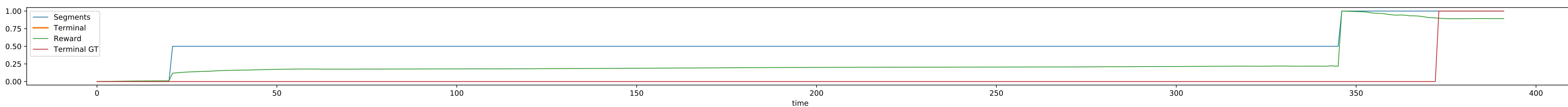
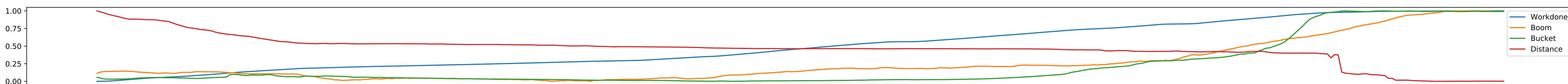
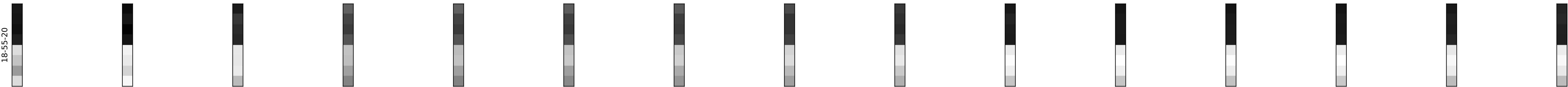
autumn - 16-01-09



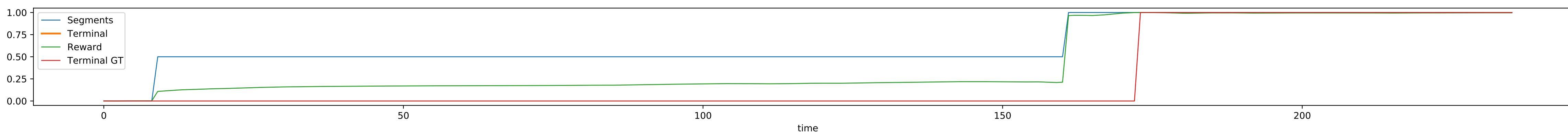
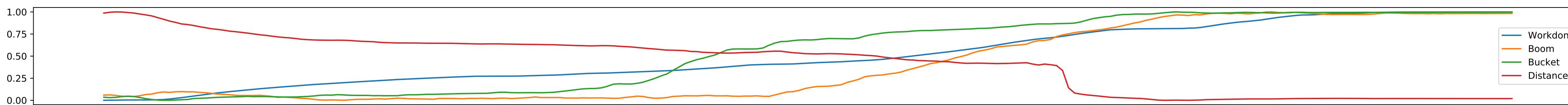
autumn - 18-58-51



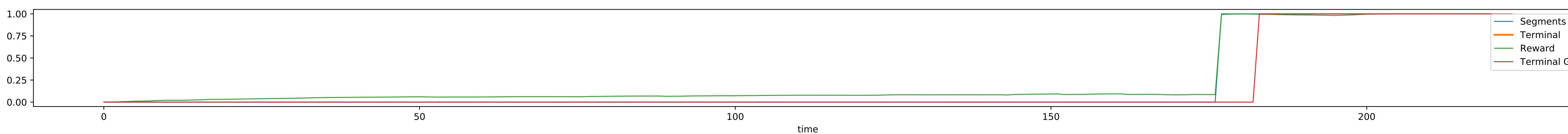
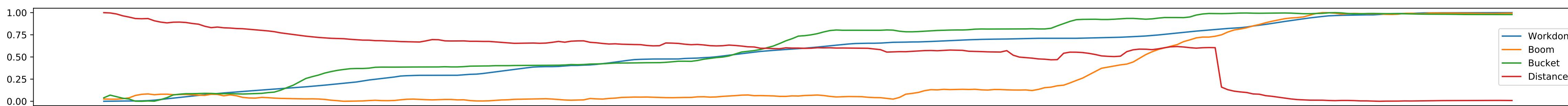
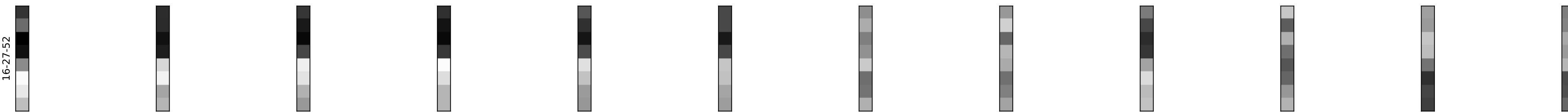
autumn - 18-55-20

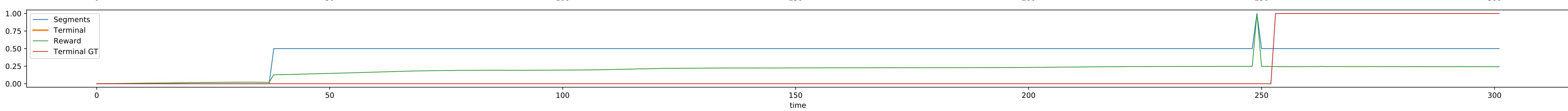
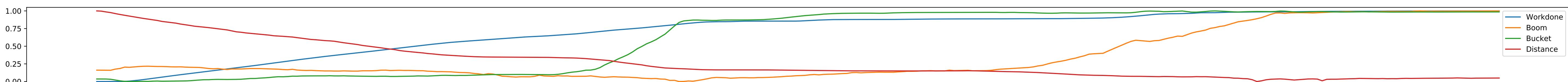
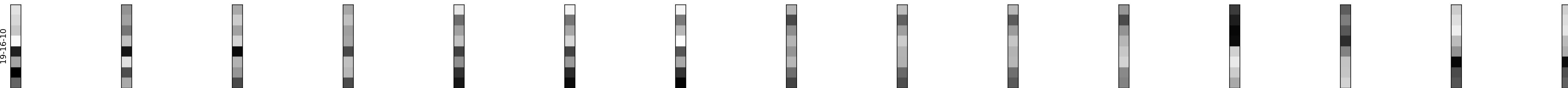


autumn - 16-17-19



autumn - 16-27-52



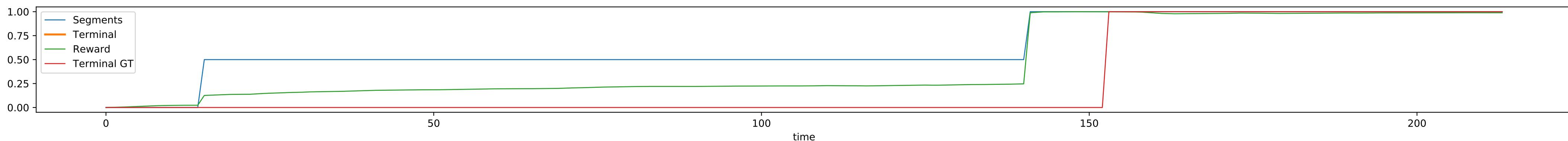
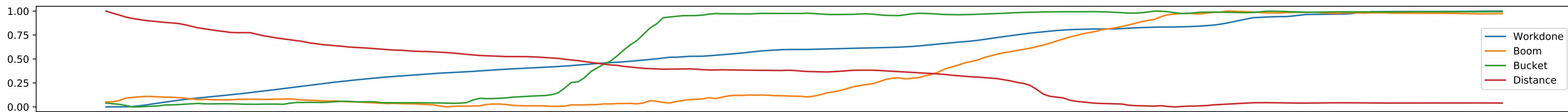
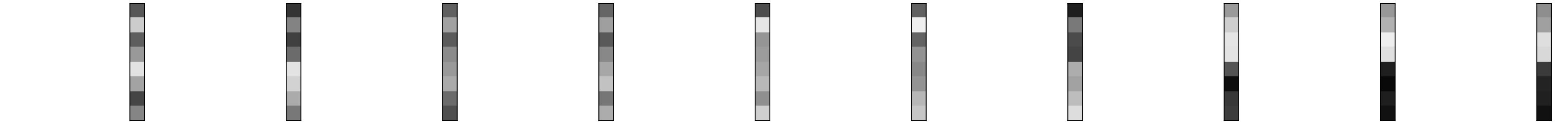


autumn - 16-34-22

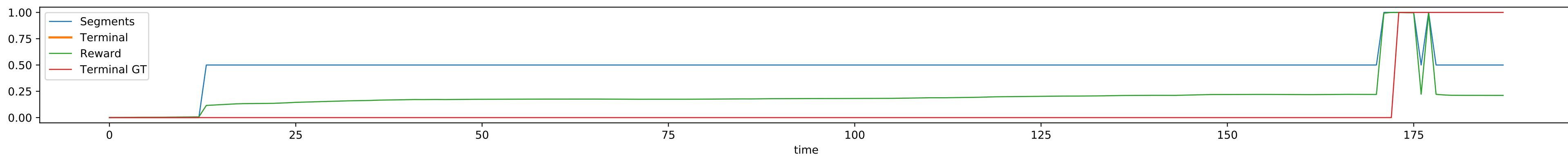
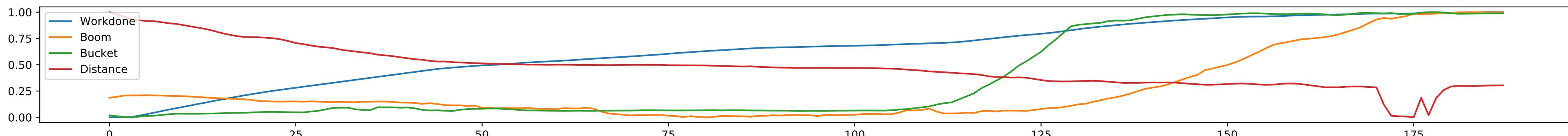
16-34-22



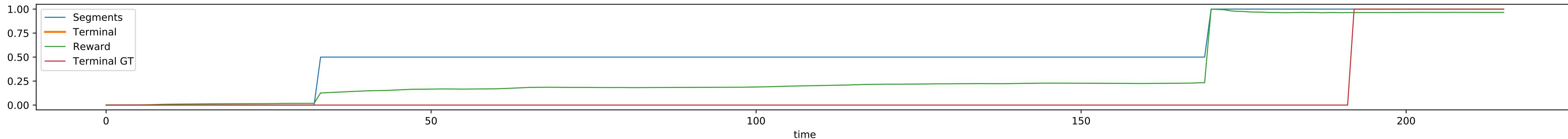
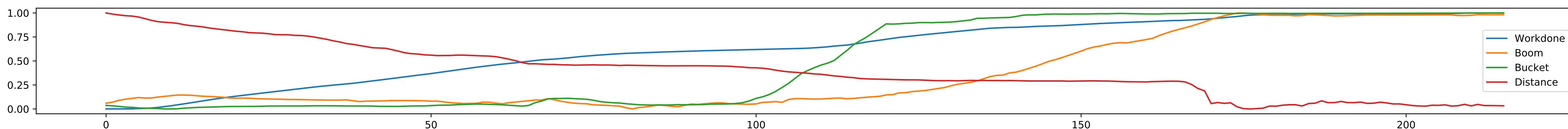
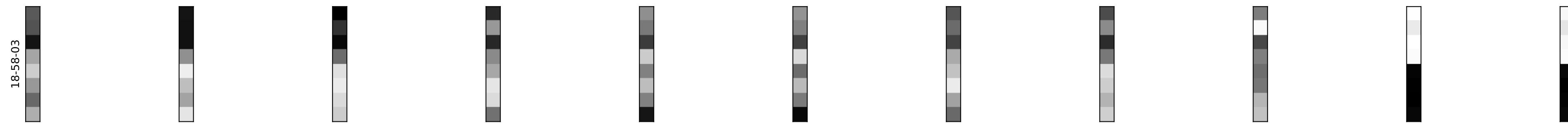
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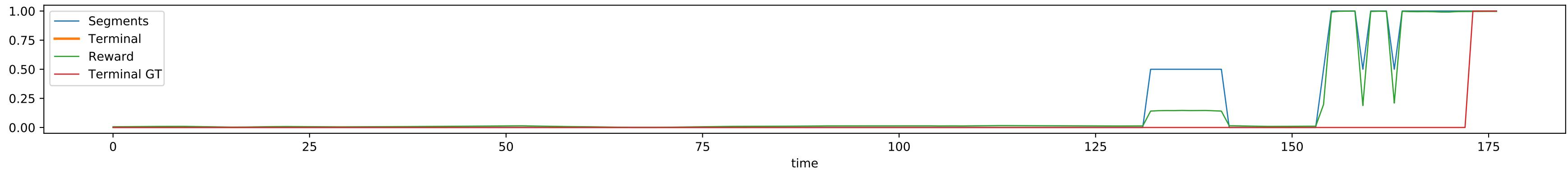
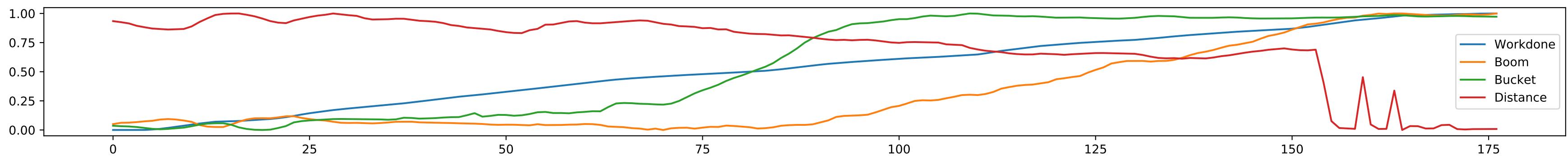
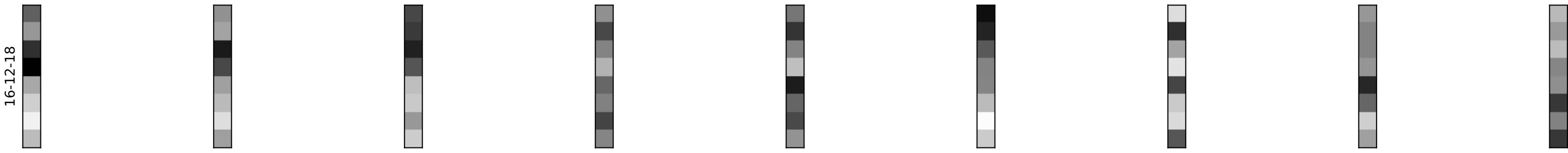
autumn - 18-54-34



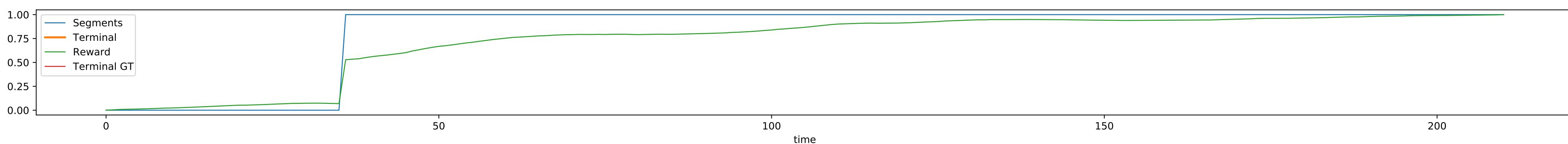
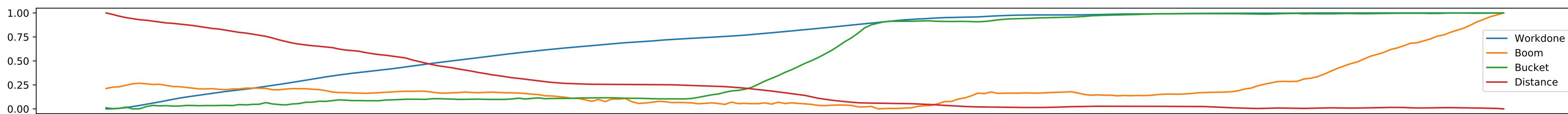
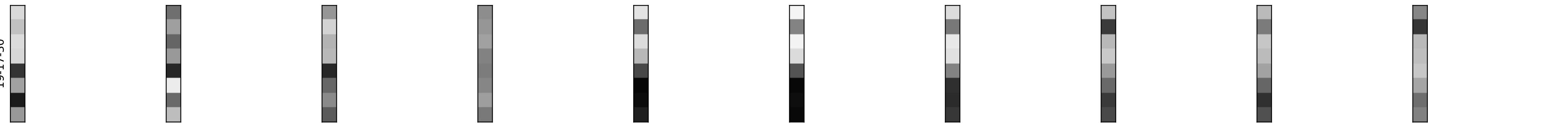
autumn - 18-58-03



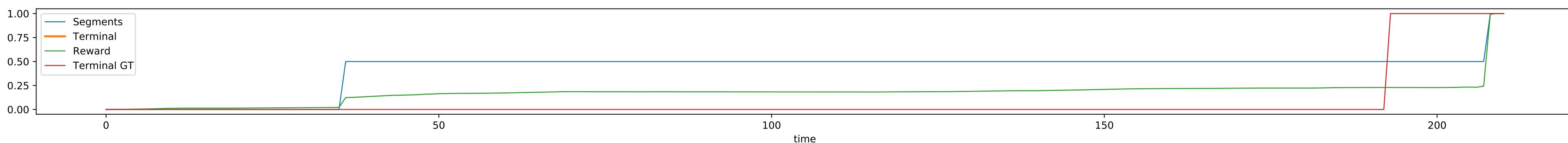
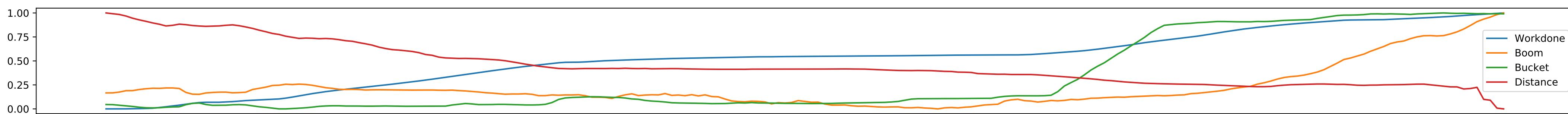
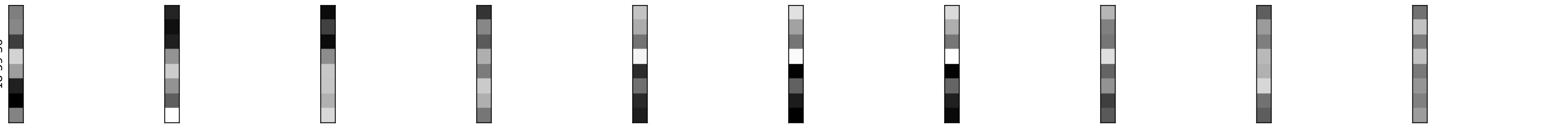
autumn - 16-12-18



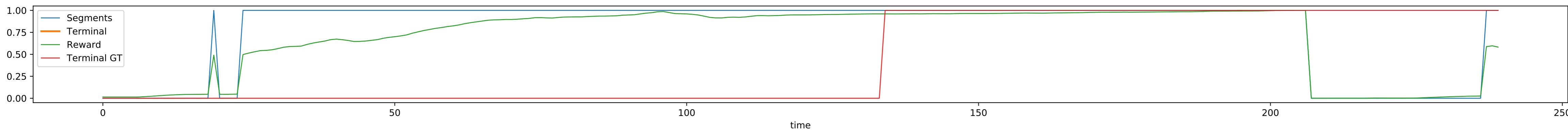
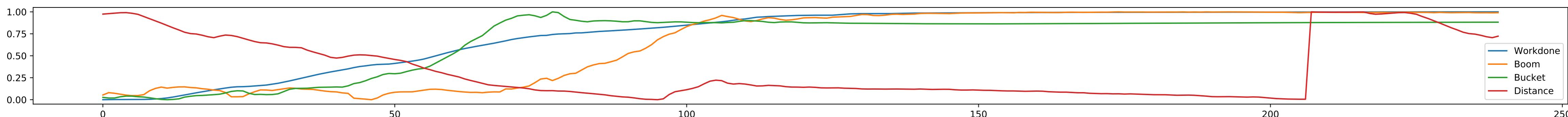
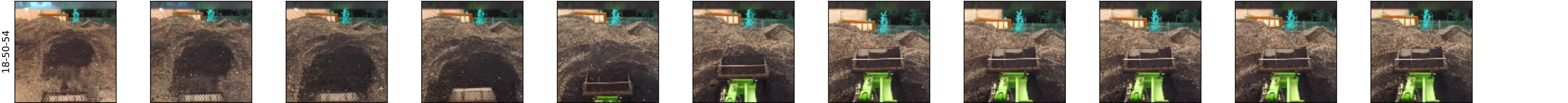
autumn - 19-17-30

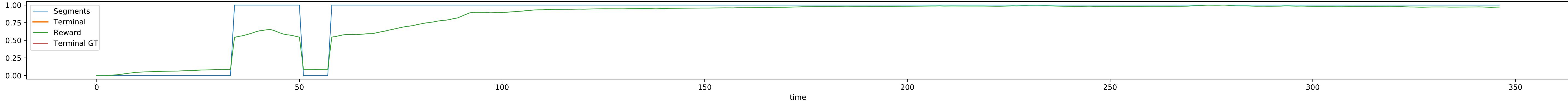
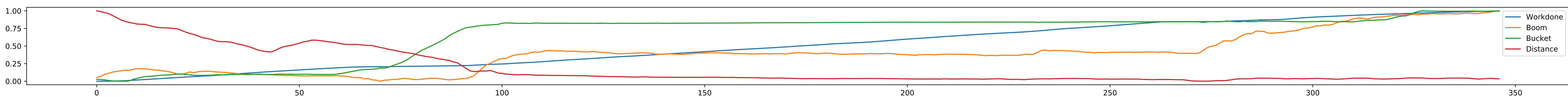
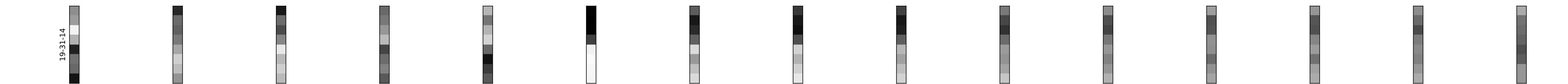


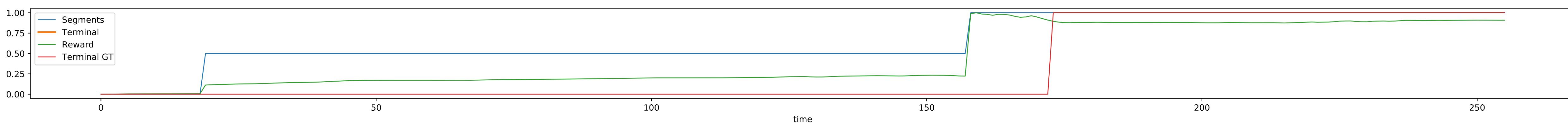
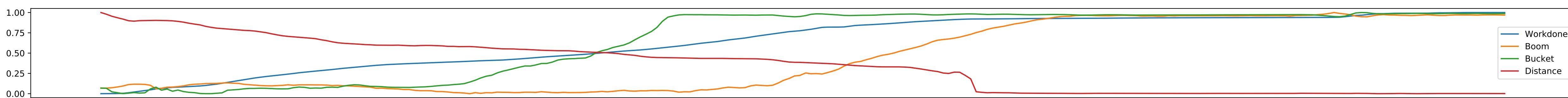
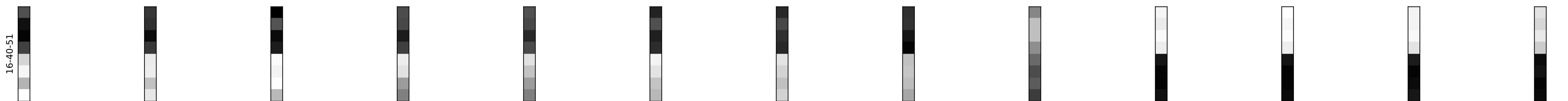
autumn - 18-59-36



autumn - 18-50-54





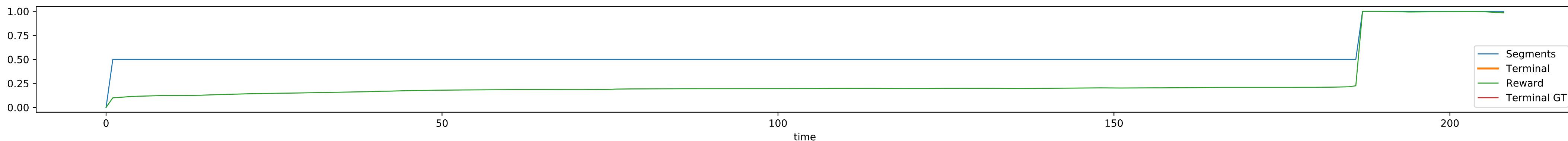
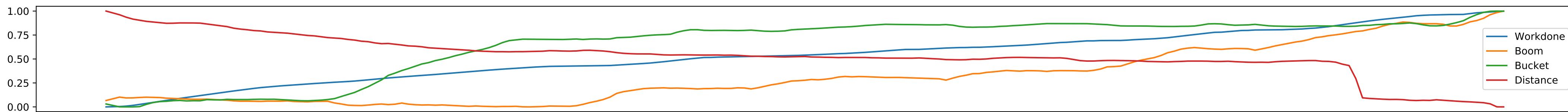
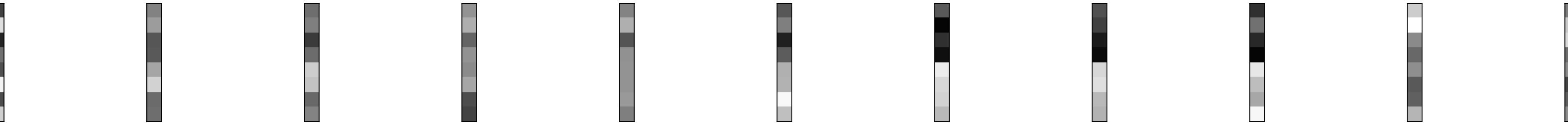


autumn - 16-19-28

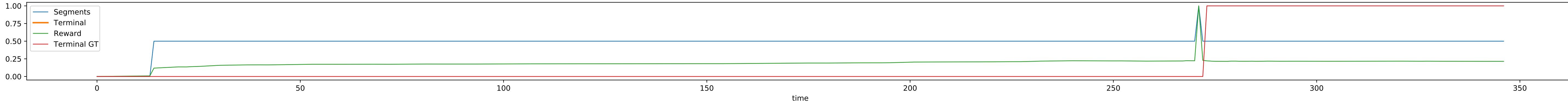
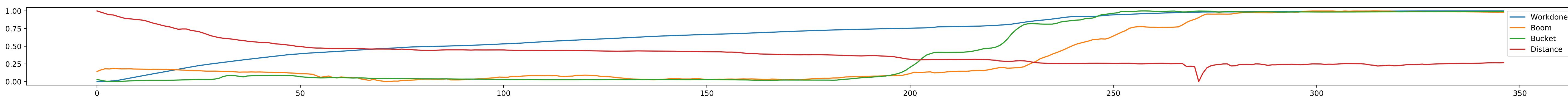
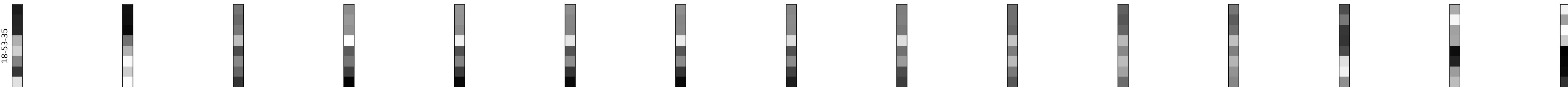
16-19-28



16-19-28

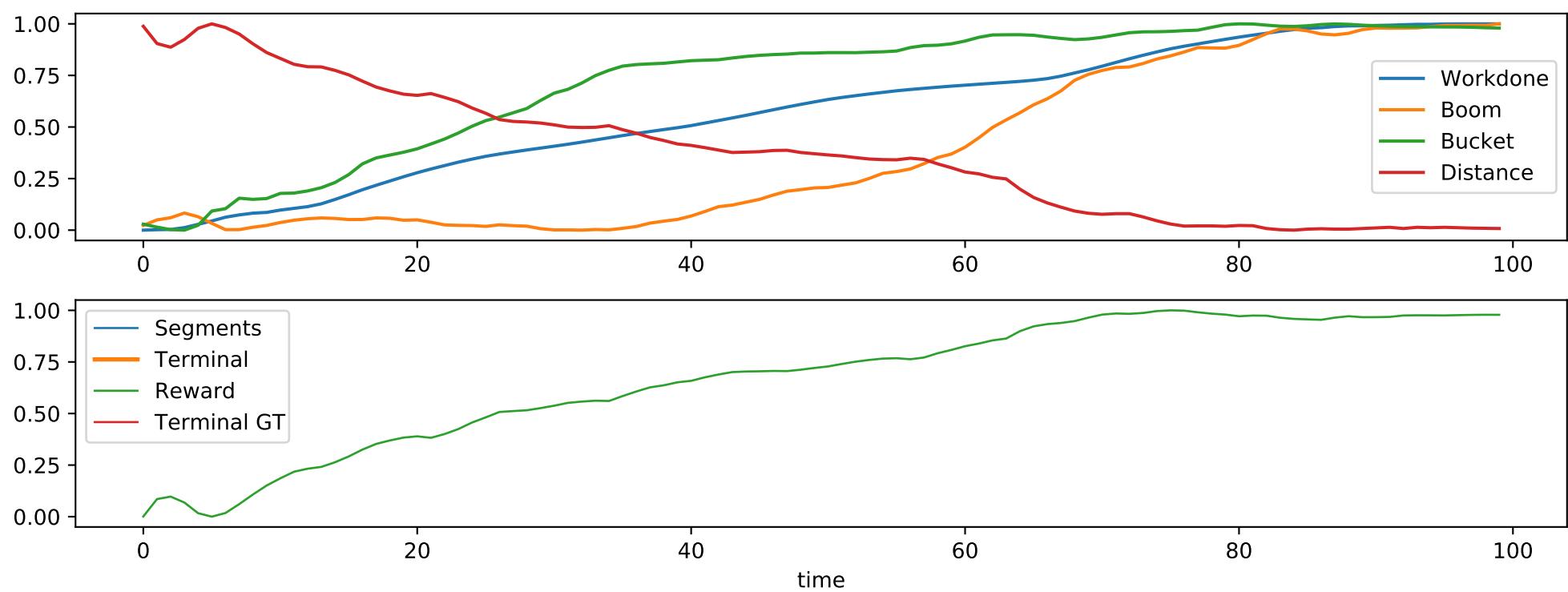


autumn - 18-53-35



autumn - 16-18-15

16-18-15



autumn - 16-18-15

16-18-15

