

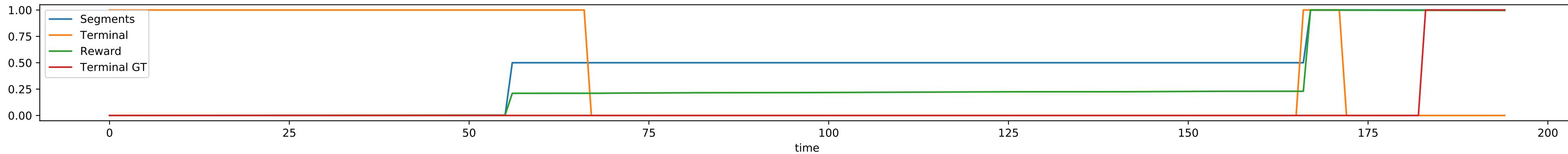
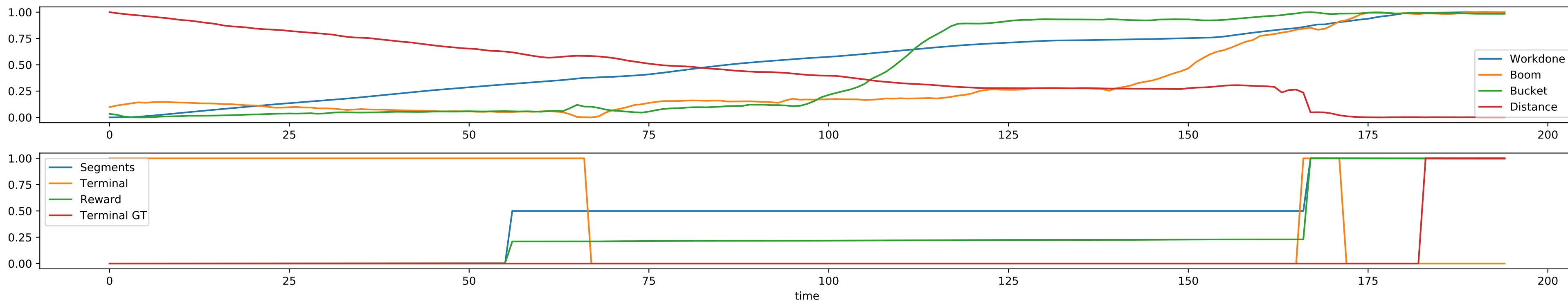
Learning Reward from Demonstrations w/sensors ($R_{\max} = 1600$)

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



16-23-38

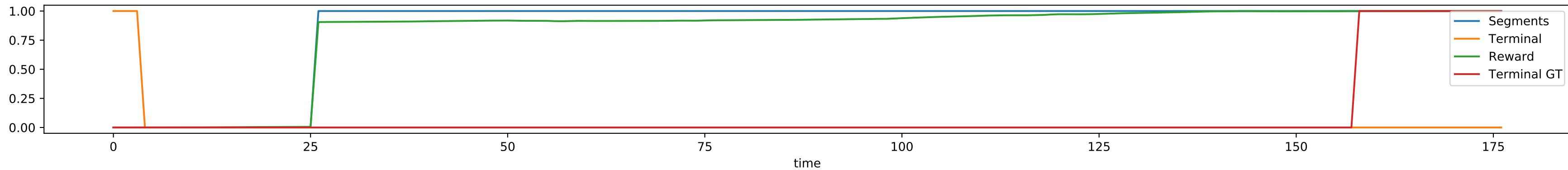
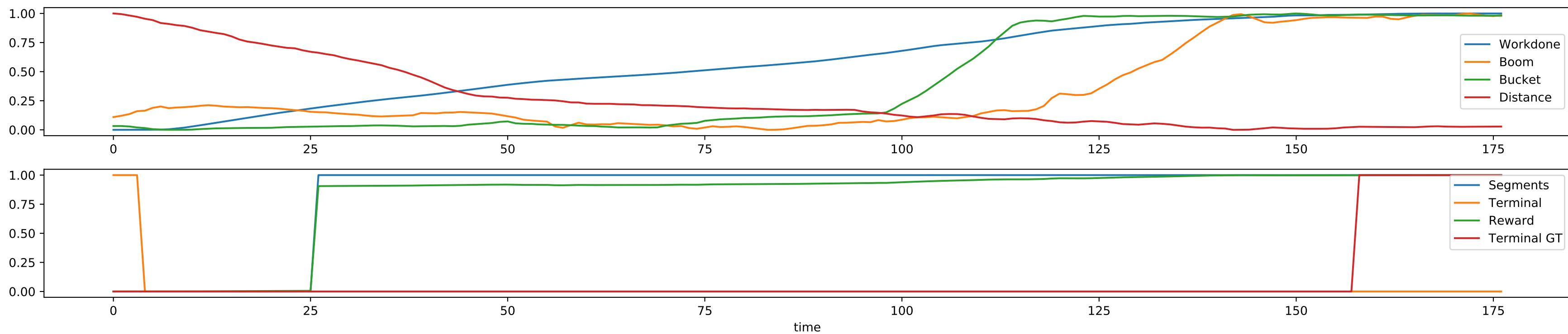
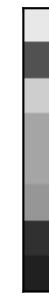


autumn - 19-01-52

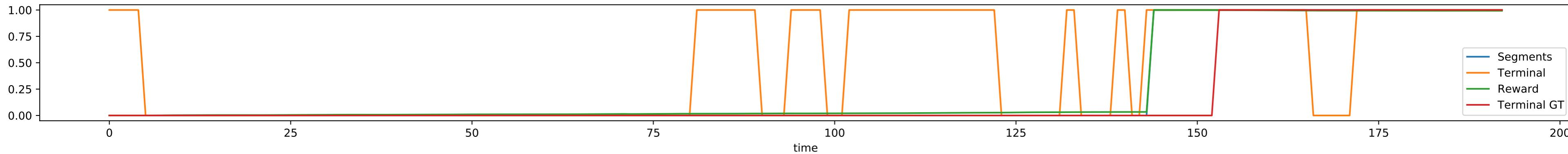
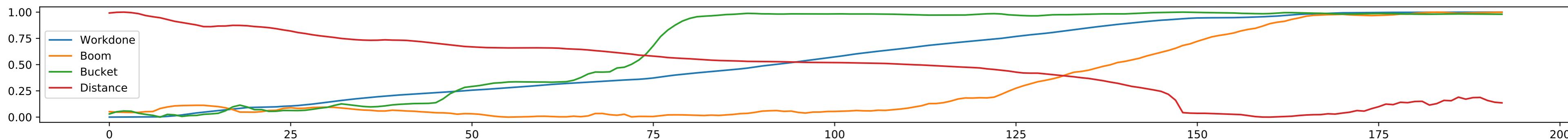
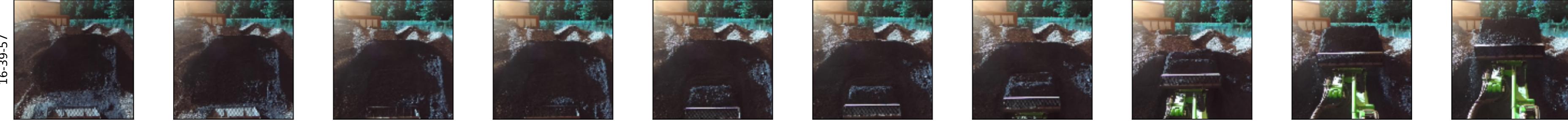
19-01-52



19-01-52



autumn - 16-39-57

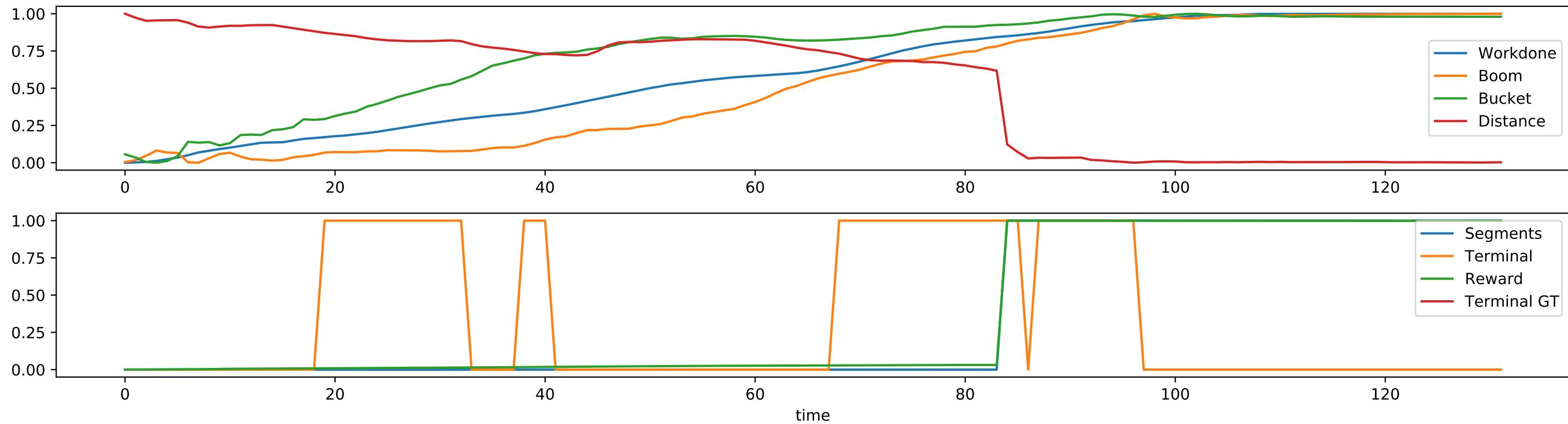
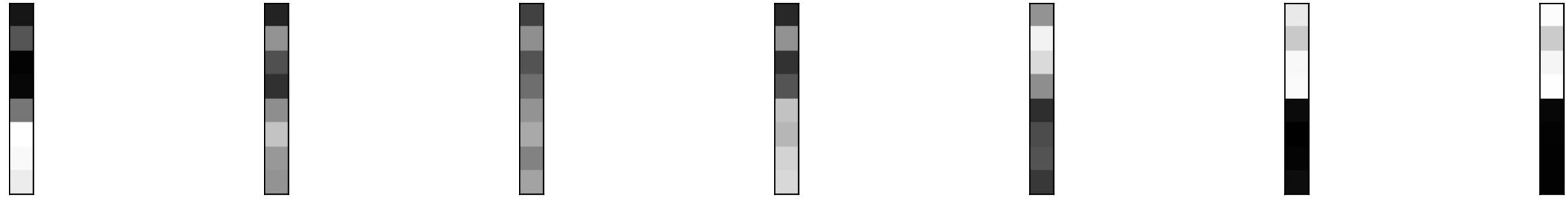


autumn - 16-26-13

16-26-13

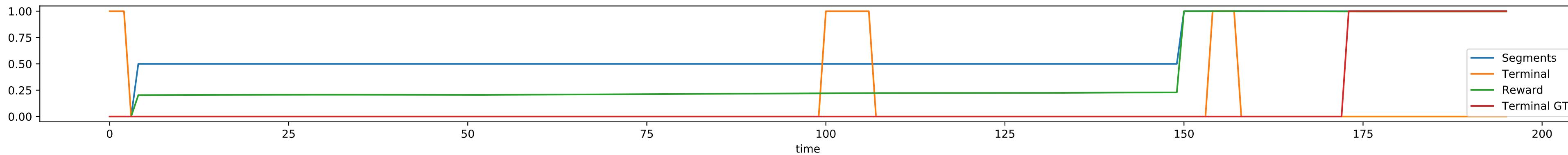
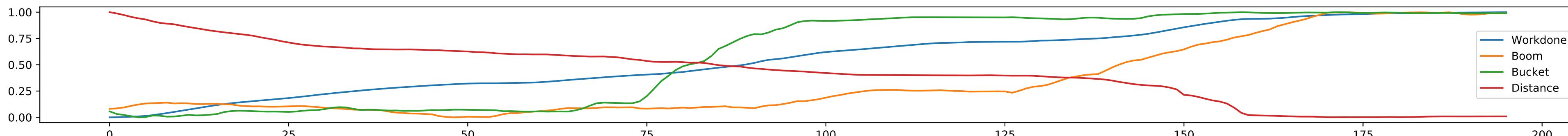
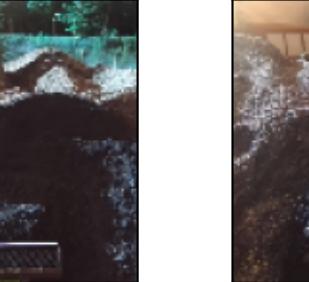


16-26-13

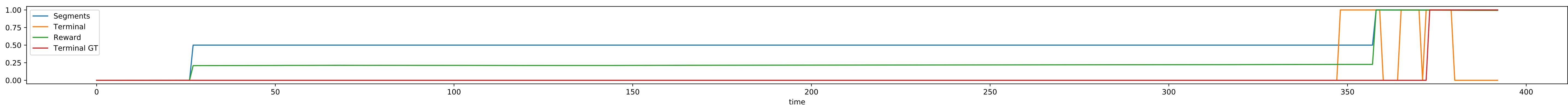
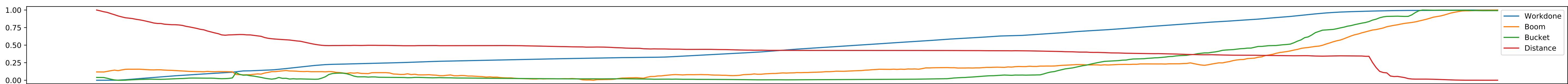
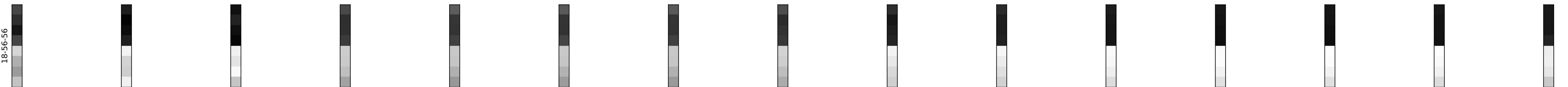


autumn - 16-31-52

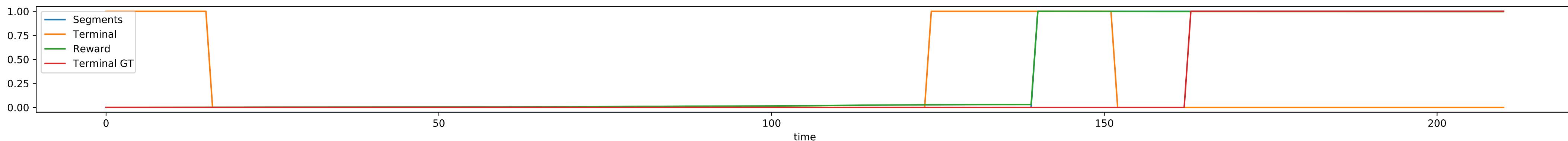
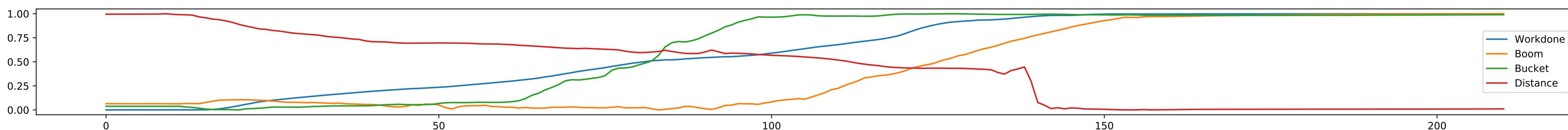
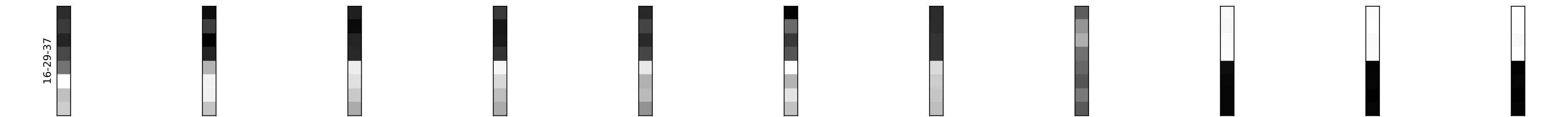
16-31-52



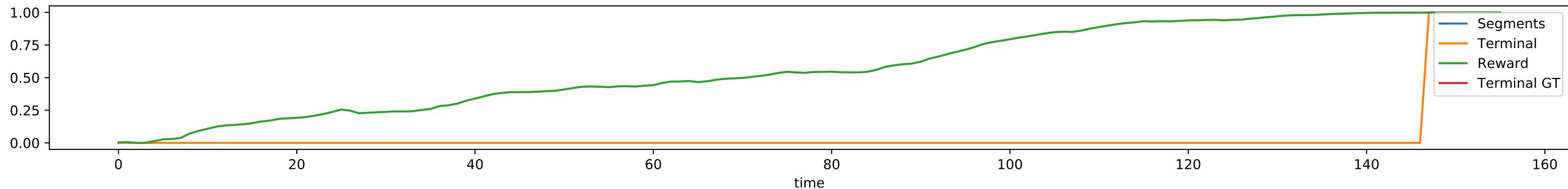
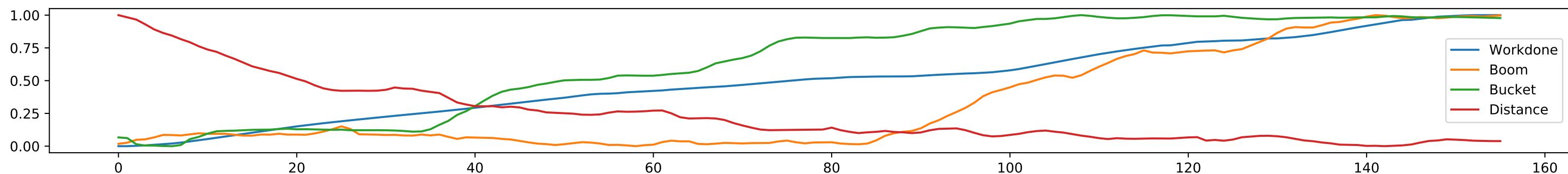
autumn - 18-56-56



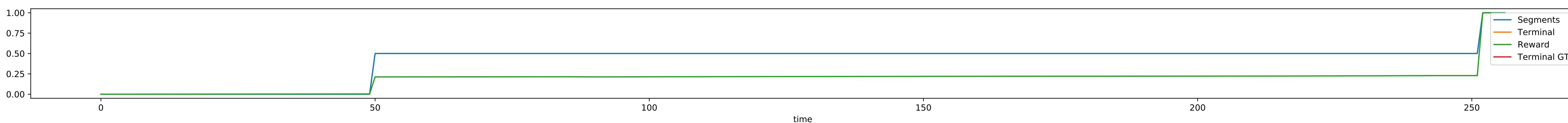
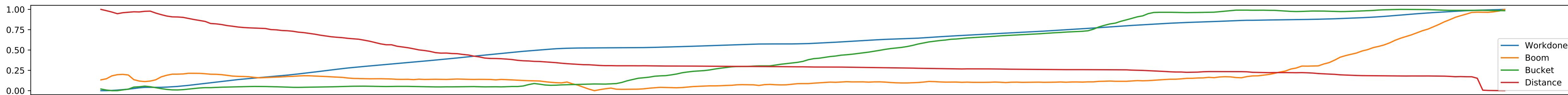
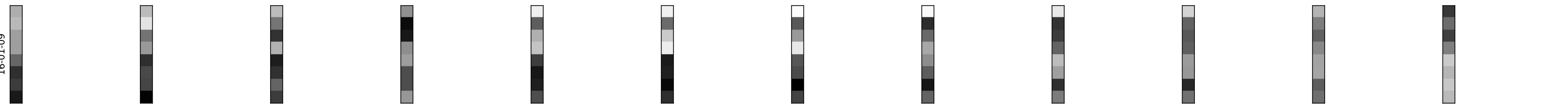
autumn - 16-29-37



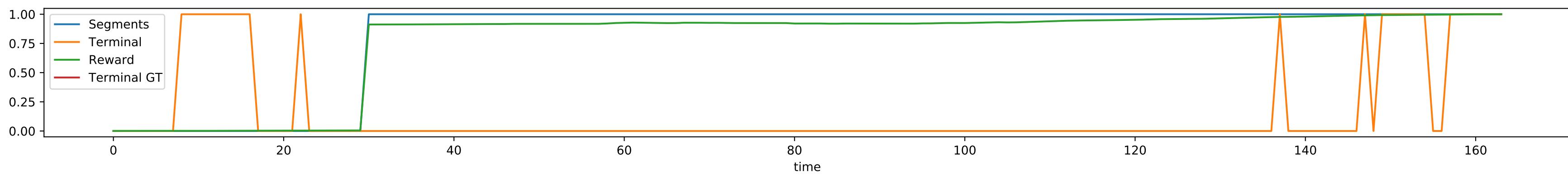
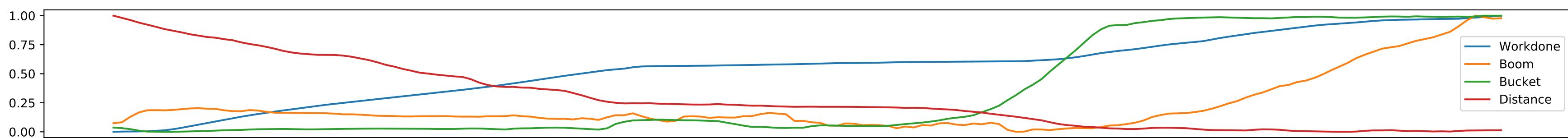
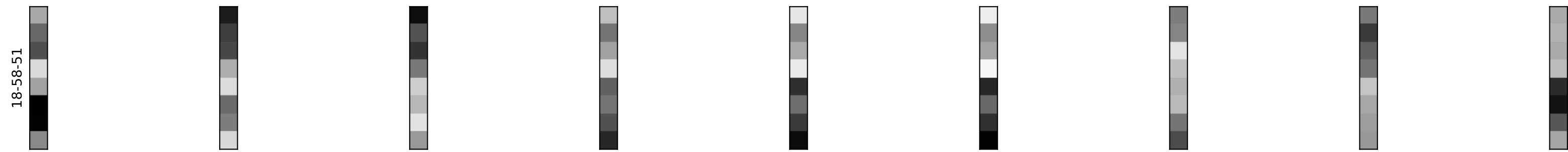
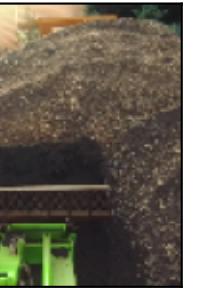
autumn - 16-27-12



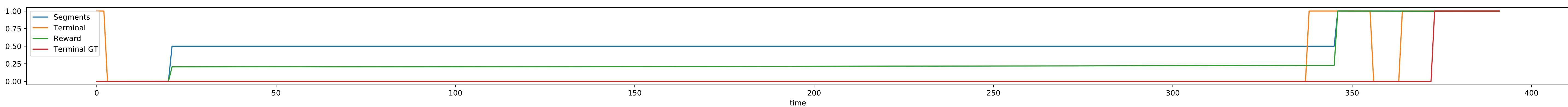
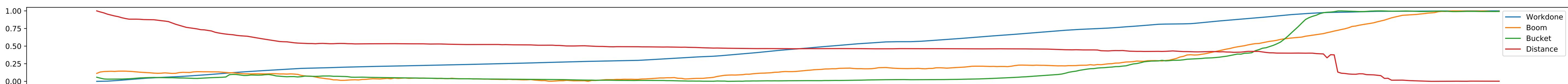
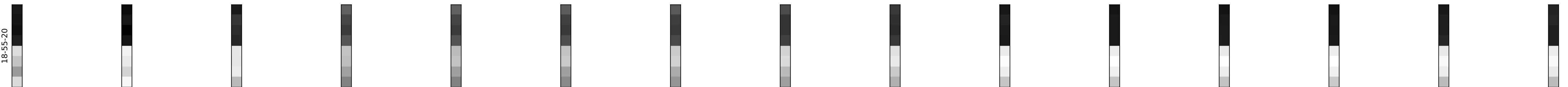
autumn - 16-01-09



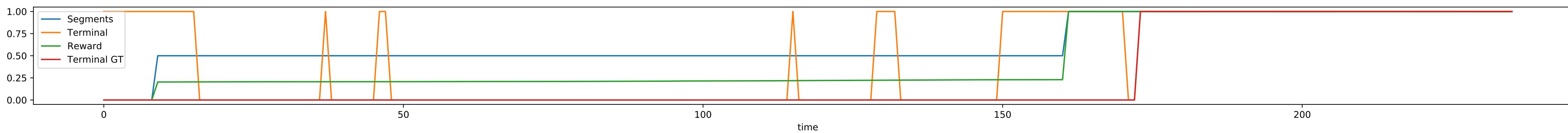
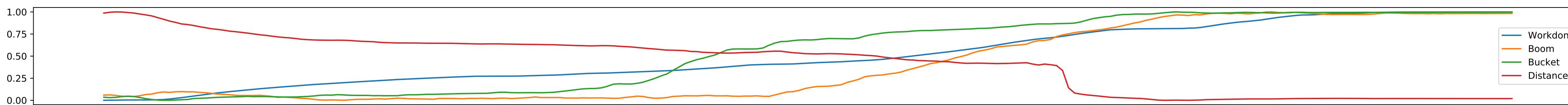
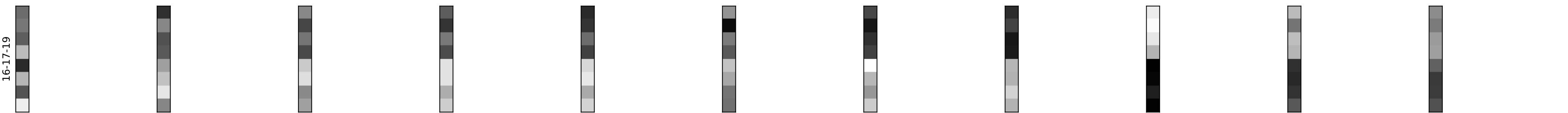
autumn - 18-58-51



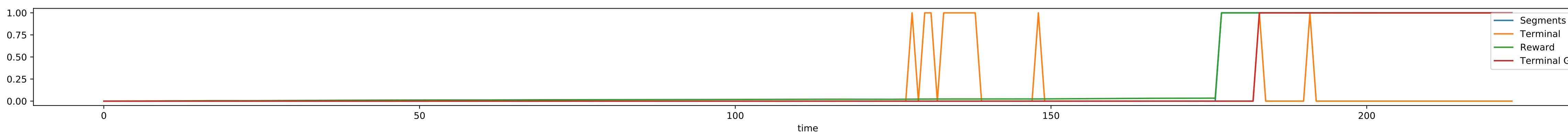
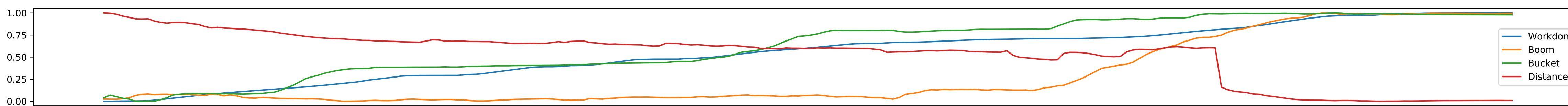
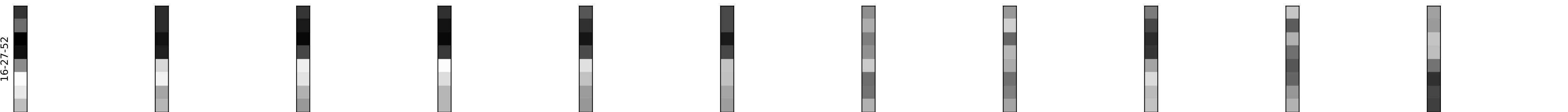
autumn - 18-55-20

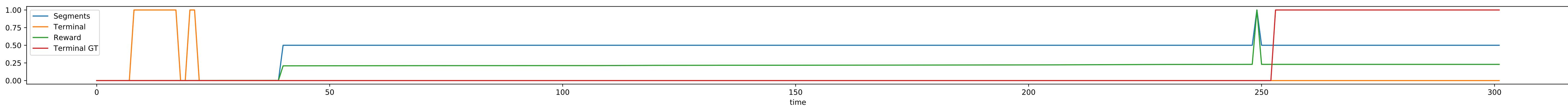
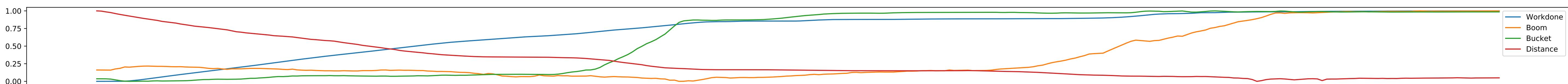
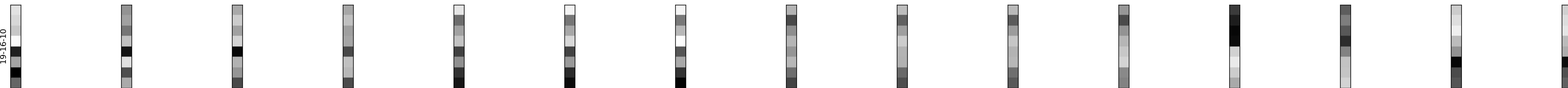


autumn - 16-17-19



autumn - 16-27-52



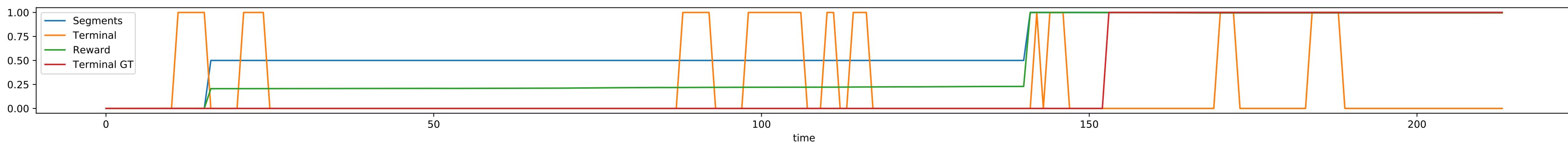
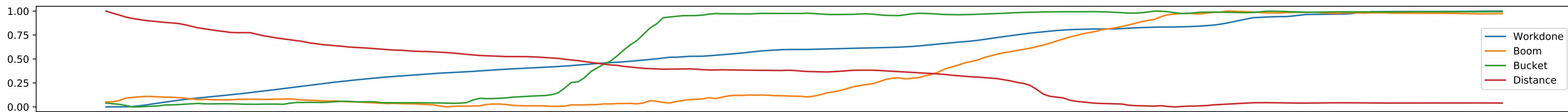
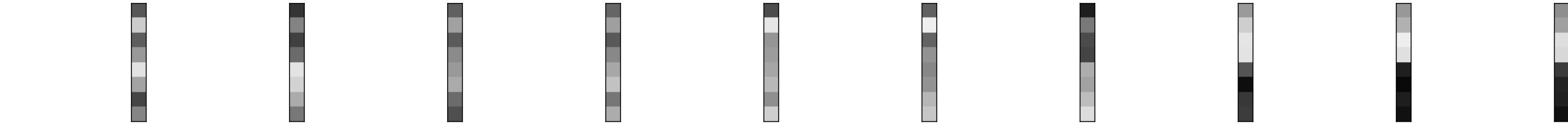


autumn - 16-34-22

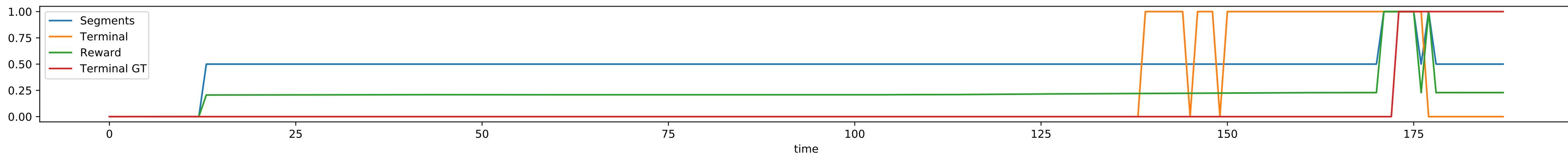
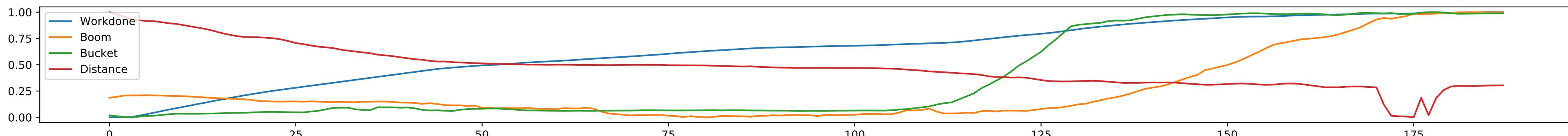
16-34-22



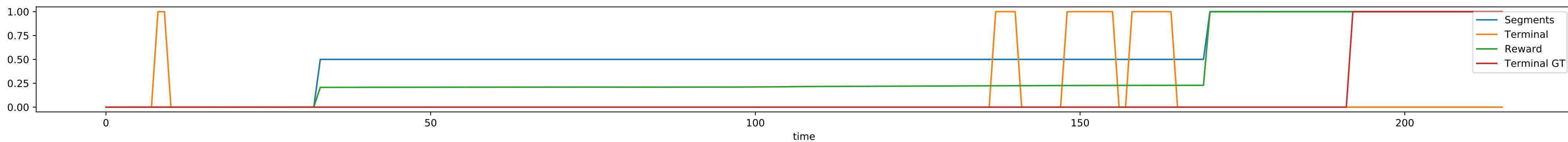
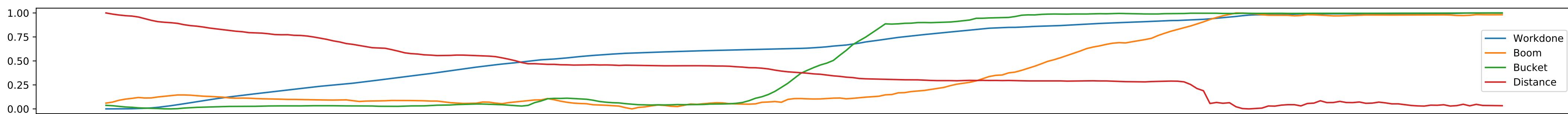
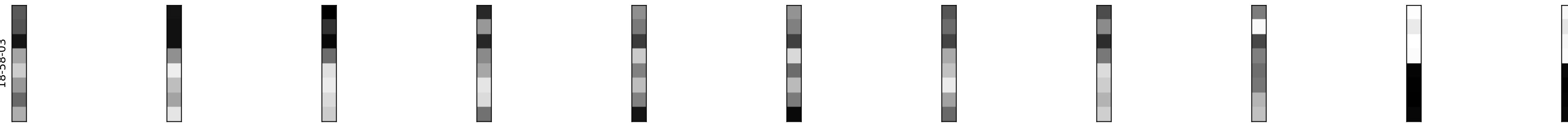
16-34-22



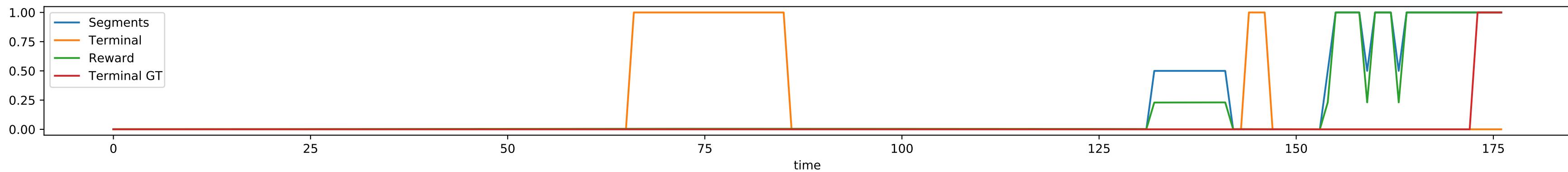
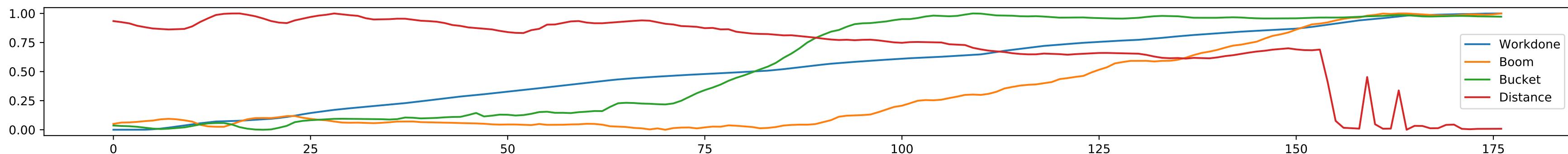
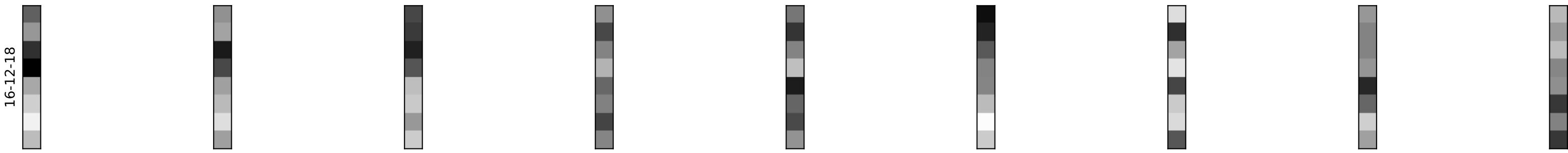
autumn - 18-54-34



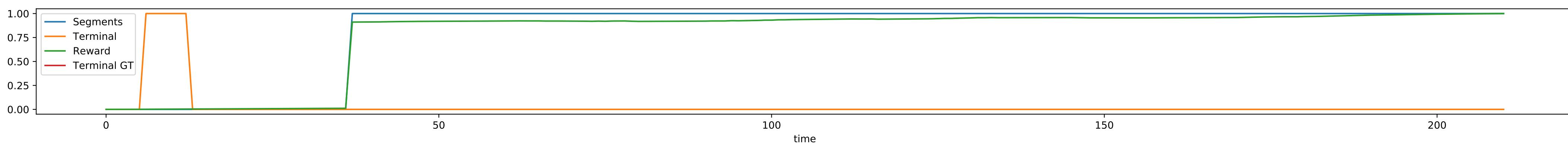
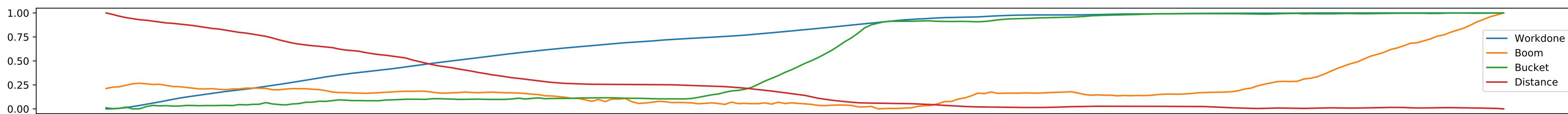
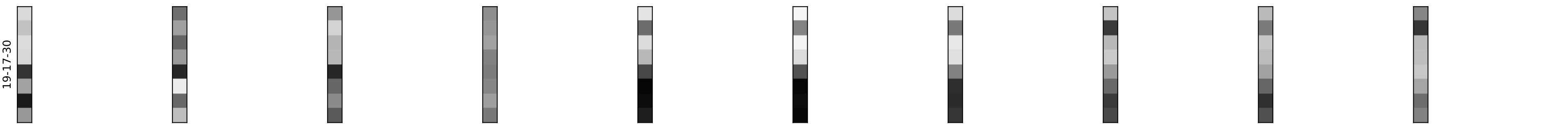
autumn - 18-58-03



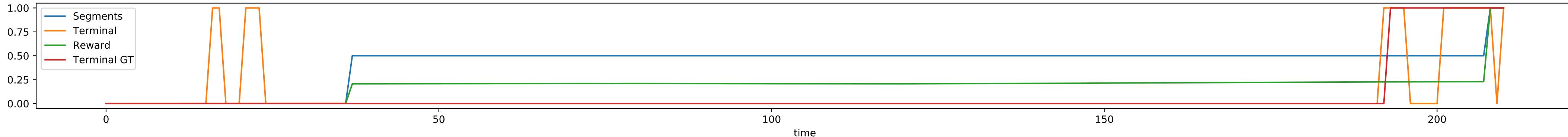
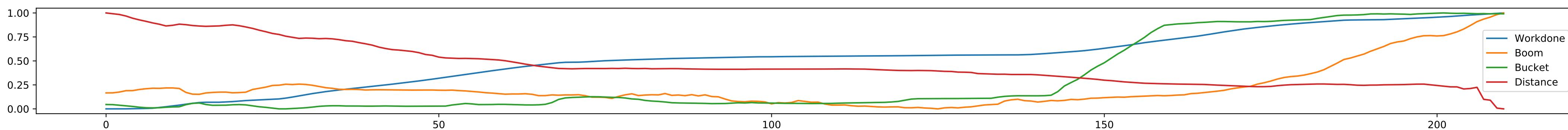
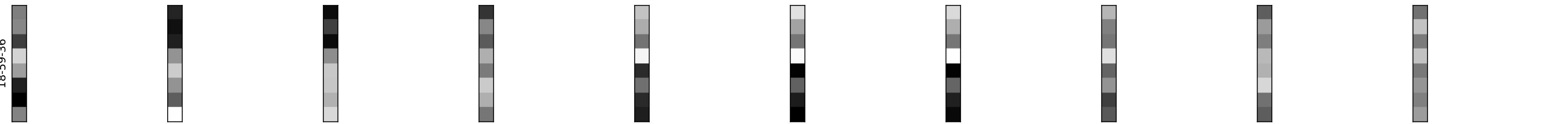
autumn - 16-12-18



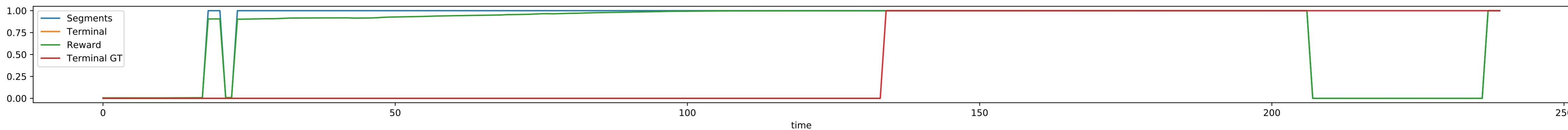
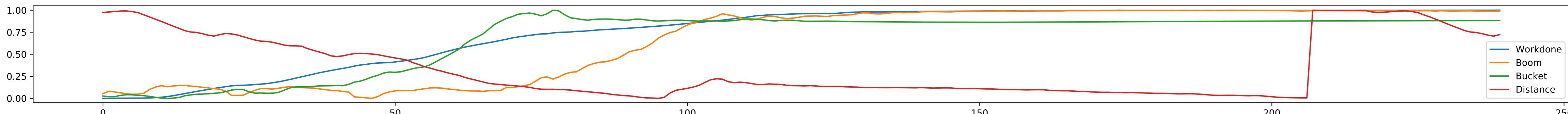
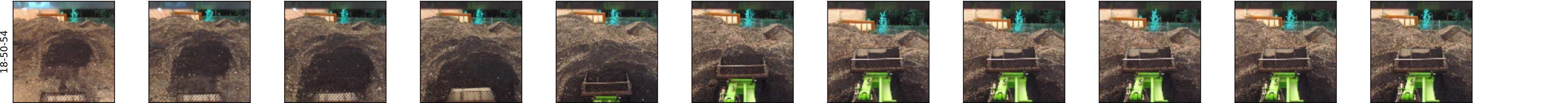
autumn - 19-17-30



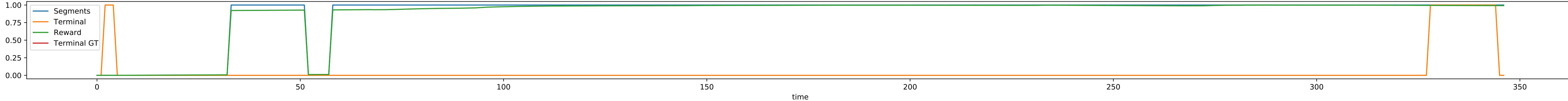
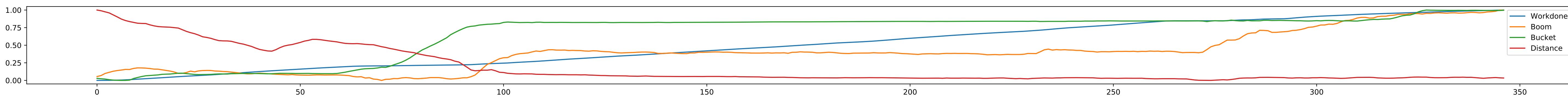
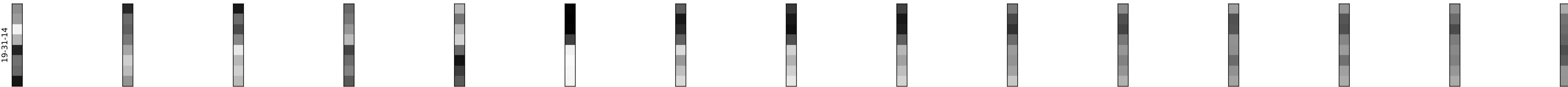
autumn - 18-59-36



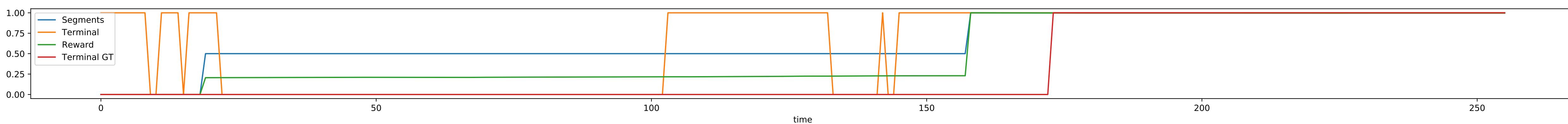
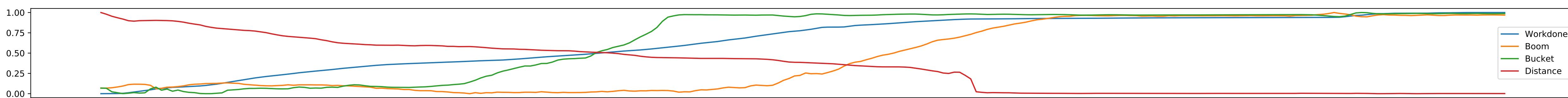
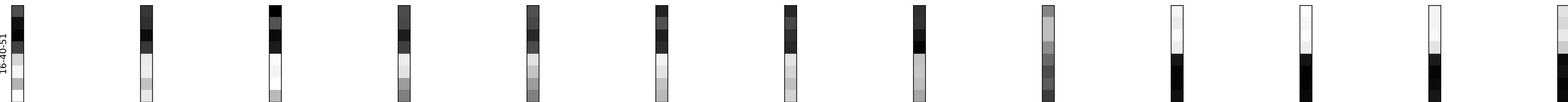
autumn - 18-50-54



autumn - 19-31-14



autumn - 16-40-51

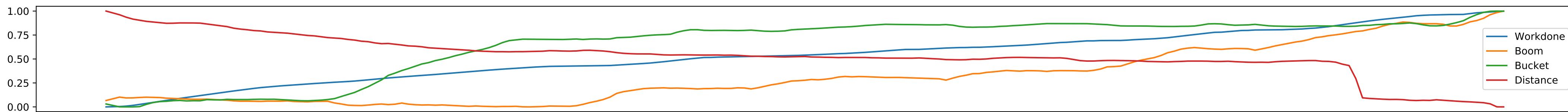
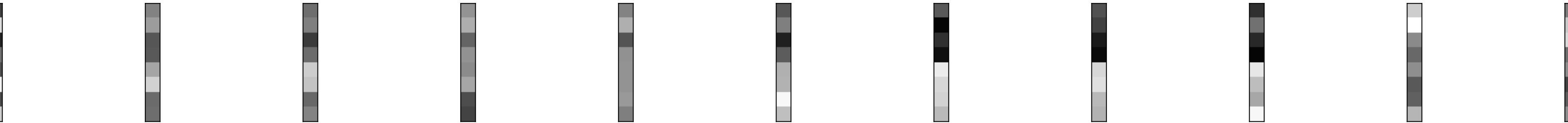


autumn - 16-19-28

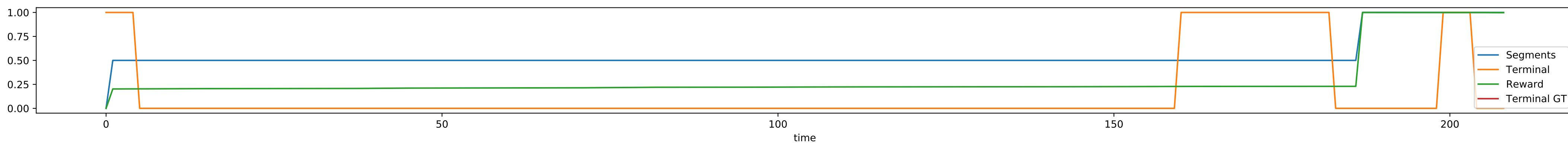
16-19-28



16-19-28



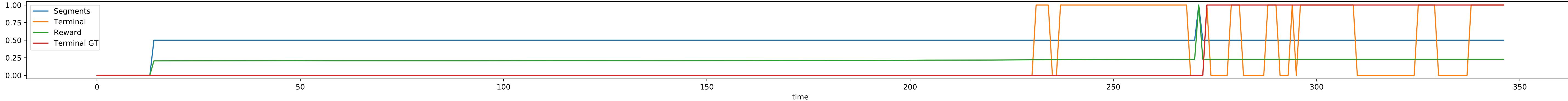
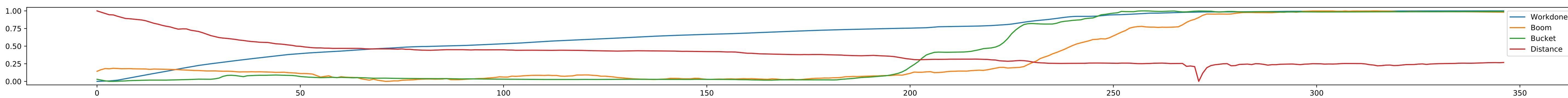
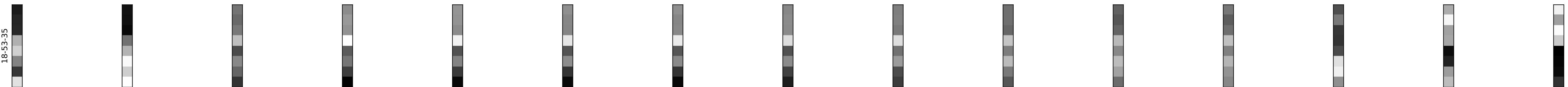
Workdone
Boom
Bucket
Distance



Segments
Terminal
Reward
Terminal GT

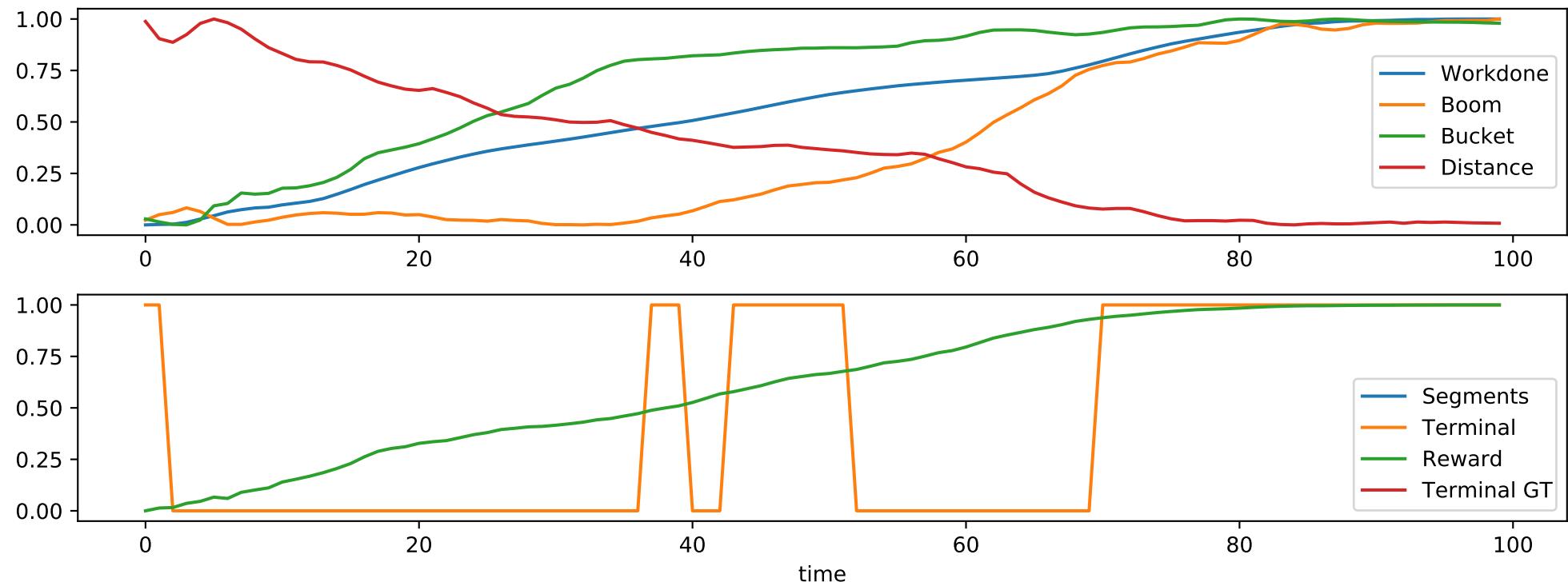
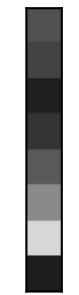
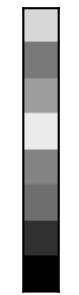
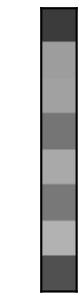
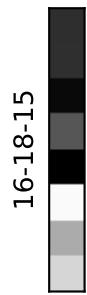
time

autumn - 18-53-35

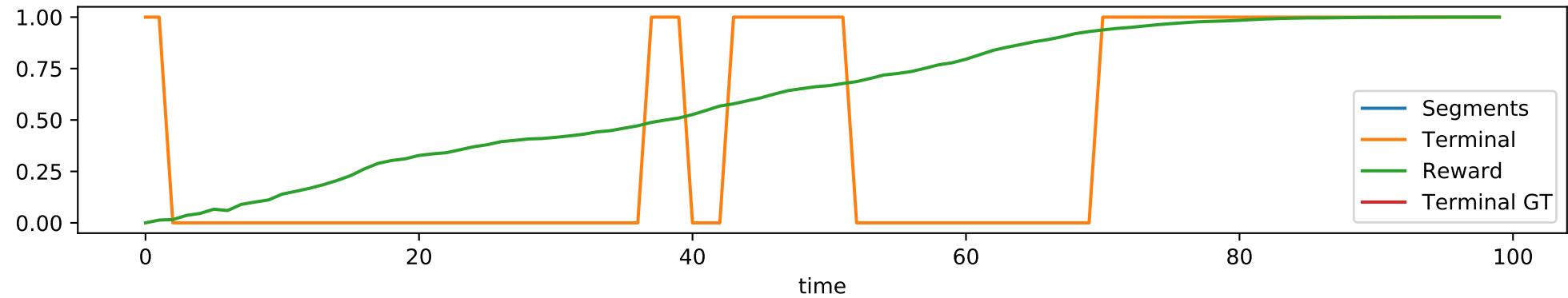


autumn - 16-18-15

16-18-15



Workdone
Boom
Bucket
Distance



Segments
Terminal
Reward
Terminal GT

time

autumn - 16-18-15

16-18-15

