

Motivation



Jogging



Running



Carrying



Jumping





Training

Class 1

Class 2

Class 3

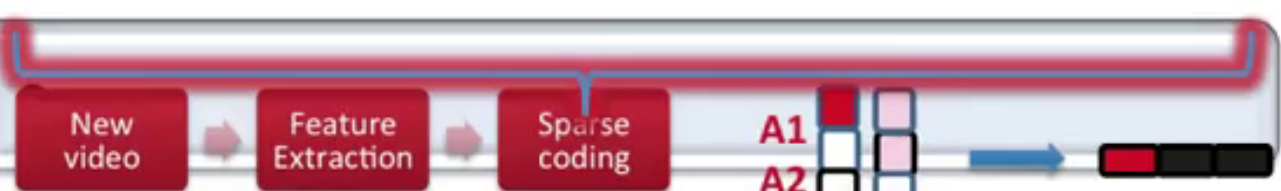
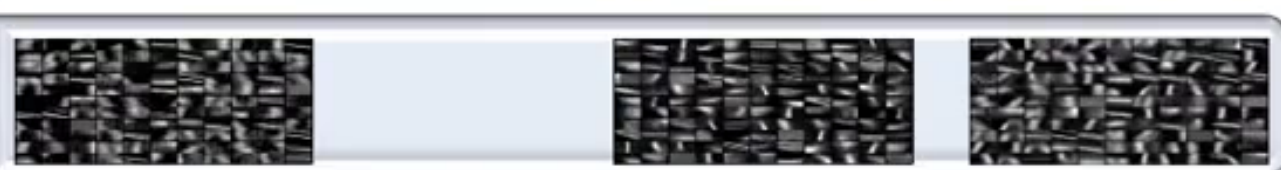
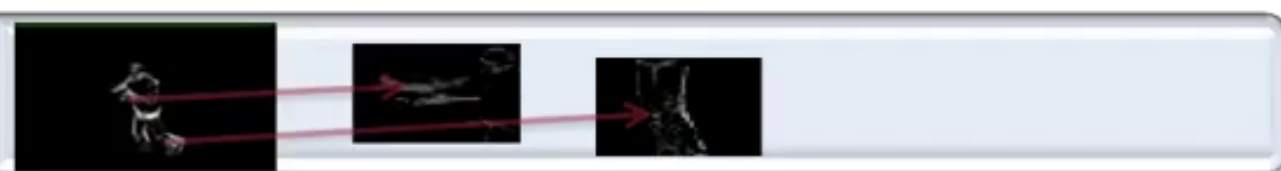
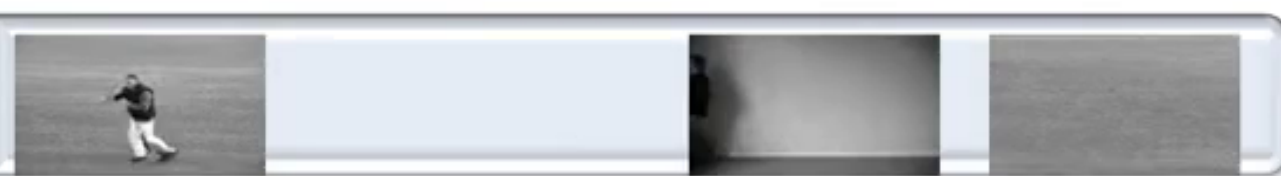
Input Videos

Spatial Temporal Features

Sparse Modeling

Classification

l_1 Pooling



A1
A2
A3

Classifier output



Results: YouTube Action Dataset

basketball	0.91	0.02	0.01	0.01	0.03	0.01	0	0.01	0	0	0
biking	0	0.97	0	0	0.03	0	0	0	0	0	0
diving	0	0	0.97	0	0.02	0	0	0	0	0.01	0
golf_swing	0.02	0.03	0.01	0.85	0	0.07	0	0.01	0	0.01	0
horse_riding	0	0.04	0.01	0	0.91	0.02	0	0	0	0.01	0.01
soccer_juggling	0	0	0.01	0	0.01	0.95	0	0	0.03	0	0
swing	0	0.08	0	0	0	0	0.92	0	0	0	0
tennis_swing	0	0	0	0	0	0.09	0	0.86	0.01	0.04	0
trampoline_jumping	0	0.03	0	0	0	0.03	0	0	0.92	0.02	0
volleyball_spiking	0.01	0	0.02	0.01	0.02	0	0	0	0	0.94	0
walking	0	0.02	0.02	0.01	0.03	0.01	0	0.01	0.01	0.01	0.89
		2		4		6		8		10	





