## **Actions** $\{(\hat{\alpha}_t^1, \hat{\nu}_t^1)\}_{t=1}^T$ : Predicted HM Scanpath **Observations** $\{\mathbf{o}_t^1\}_{t=1}^T$ : DRL Workflow 1 previous current FoV HM Scanpath Predictor FoV Extractor Action **Observation** FoV at frame t-2: FoV at frame t-1: FoV at frame t Frame t-2 : $\mathbf{F}_{t-2}$ Frame t-1: $\mathbf{F}_{t-1}$ Frame $t: \mathbf{F}_t$ **Observations** $\{\mathbf{o}_t^N\}_{t=1}^T$ : **Actions** $\{(\hat{\alpha}_t^N, \hat{\nu}_t^N)\}_{t=1}^T$ : Predicted HM Scanpath DRL Workflow N previous current FoV Action HM Scanpath Predictor FoV Extractor

Frame  $t: \mathbf{F}_t$ 

Observation

FoV at frame t-2: FoV at frame t-1: FoV at frame t:

Input:

Panoramic Video

Frames  $\{\mathbf{F}_t\}_{t=1}^T$ 

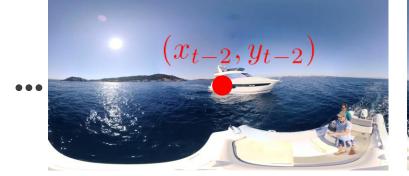
Frame t-2 :  $\mathbf{F}_{t-2}$ 

Frame t-1:  $\mathbf{F}_{t-1}$ 

## HM Position Prediction

HM Positions  $\{(\hat{x}_t^1, \hat{y}_t^1)\}_{t=1}^T$ : previous • •

**HM Scanpaths**  $\{(\hat{\alpha}_t^1, \hat{\nu}_t^1)\}_{t=1}^T$ •••••



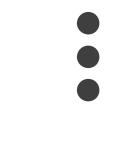
••• Frame t-2 :  $\mathbf{F}_{t-2}$ 





Frame t-1:  $\mathbf{F}_{t-1}$ 

Frame  $t: \mathbf{F}_t$ 

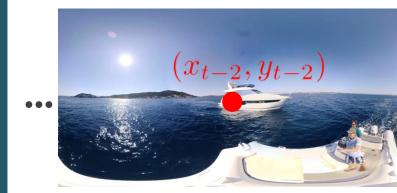


## HM Position Prediction

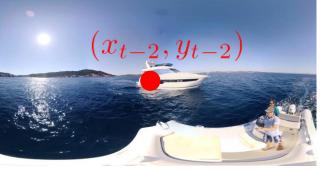
HM Positions  $\{(\hat{x}_t^N, \hat{y}_t^N)\}_{t=1}^T$ :

HM Scanpath  $\{(\hat{\alpha}_t^N, \hat{\nu}_t^N)\}_{t=1}^T$ 

previous • • current • •••••



Frame t-2 :  $\mathbf{F}_{t-2}$ 







*Frame t-1:*  $\mathbf{F}_{t-1}$ Frame  $t: \mathbf{F}_t$ 





**HM** Position

Integration &

Smoothing