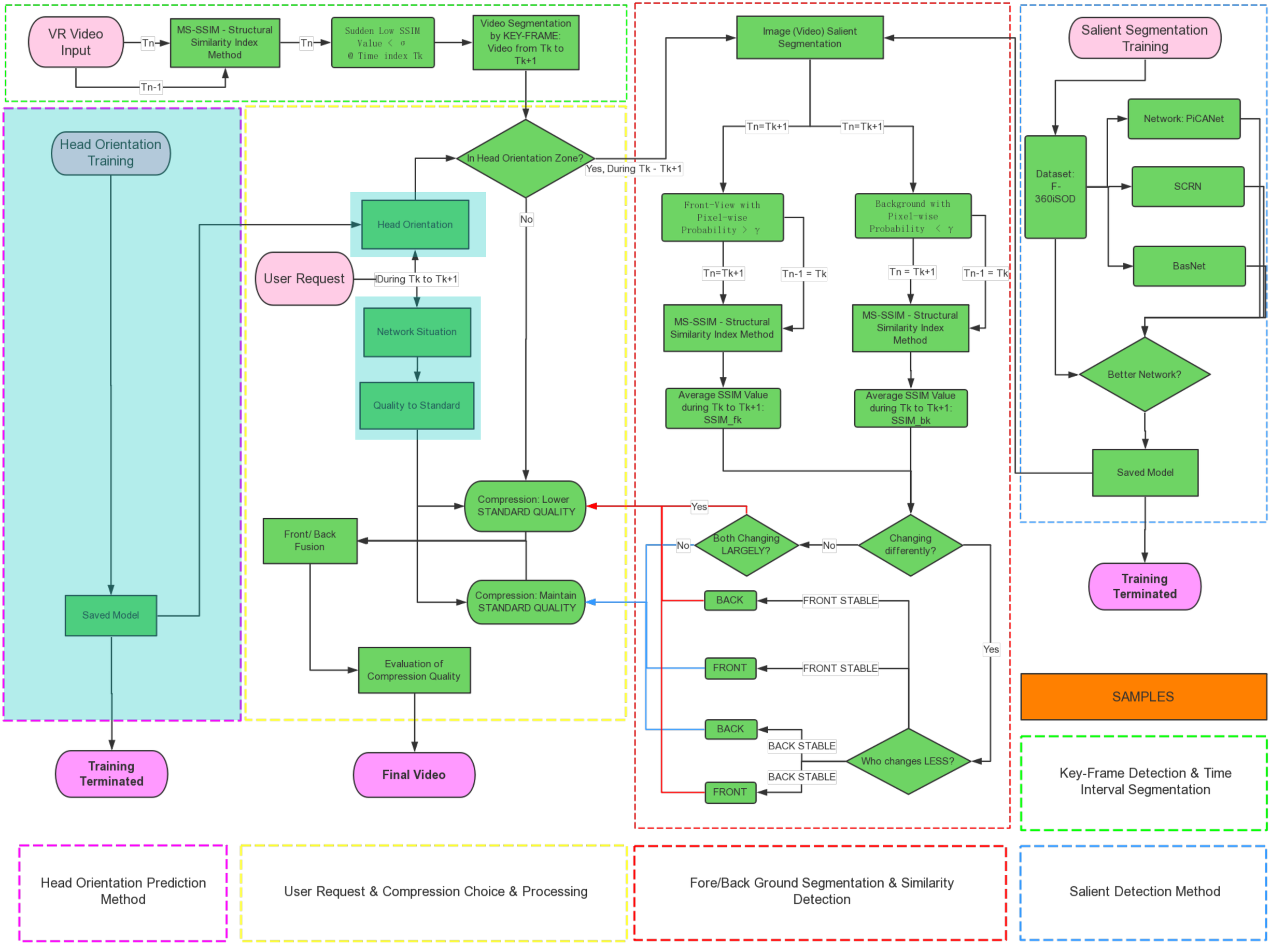
VR Video Input
Tn
MS-SSIM - Structural Similarity Index Method
Tn
Sudden Low SSIM Value < σ @ Time index Tk
Video Segmentation by KEY-FRAME: Video from Tk to Tk+1
Tn-1
Head Orientation Training
Saved Model
Training Terminated
In Head Orientation Zone?
Yes, During Tk - Tk+1
No
Head Orientation
User Request
During Tk to Tk+1
Network Situation
Quality to Standard
Compression: Lower STANDARD QUALITY
Front/ Back Fusion
Compression: Maintain STANDARD QUALITY
Evaluation of Compression Quality
Final Video
Image (Video) Salient Segmentation
Tn=Tk+1
Tn=Tk+1
Front-View with Pixel-wise Probability > γ
Background with Pixel-wise Probability < γ
Tn=Tk+1
Tn-1 = Tk
Tn = Tk+1
Tn-1 = Tk
MS-SSIM - Structural Similarity Index Method
MS-SSIM - Structural Similarity Index Method
Average SSIM Value during Tk to Tk+1: SSIM_fk
Average SSIM Value during Tk to Tk+1: SSIM_bk
Yes
Both Changing LARGELY?
No
Changing differently?
No
BACK
FRONT STABLE
FRONT
FRONT STABLE
Yes
BACK
BACK STABLE
Who changes LESS?
BACK STABLE
FRONT
Salient Segmentation Training
Dataset: F-360iSOD
Network: PiCANet
SCRN
BasNet
Better Network?
Saved Model
Training Terminated
SAMPLES
Key-Frame Detection & Time Interval Segmentation
Head Orientation Prediction Method
User Request & Compression Choice & Processing
Fore/Back Ground Segmentation & Similarity Detection
Salient Detection Method