Table S1. Hyper-parameter Information for each of the datasets.

Parametes	JIGSAWS	NETS	Cholec	Breakfast
# Epochs	25	25	25	50
LR	3e-4	3.00E-04	5.00E-04	3e-4
Cutoff Epoch	3	3	10	3
Min. Patience	2	2	5	5
Batch Size	1	1	1	1
boundary th	0.5	0.5	0.5	0.5
Class Wt	TRUE	TRUE	TRUE	TRUE
Optimizer	Adam	Adam	Adam	Adam
Momentum	0.9 (mGRU) 0.9 (ASRF) False (others)	0.9 (mGRU) 0.9 (ASRF) False (others)	0.9 (mGRU) 0.9 (ASRF) False (others)	0.9 (mGRU) 0.9 (ASRF) False (others)
Wt decay	0.0001	0.0001	0.0001	0.0001
Dropout	0.1 (UVAST)	0.1 (UVAST)	0.1 (UVAST)	0.1 (UVAST)
	False (others)	False (others)	False (others)	False (others)
Tolerance	5 (MgRU & ASRF)	6 (MgRU & ASRF)	7 (MgRU & ASRF)	9 (MgRU & ASRF)
	False (others)	False (others)	False (others)	False (others)

Table S2. The performance of the Proposed algorithm on 5 different datasets, using the I3D feature extractor. Here, **"H-"** refers to the HASR architecture [1]

Datasets		NETS		JNP [8]		JS [8]		JKT [8]		C-T50 [15]	
Venue	**Model**	**Edit**	**F1**	**Edit**	**F1**	**Edit**	**F1**	**Edit**	**F1**	**Edit**	**F1**
CVPR	MSTCN [7]	94.52	88.42	64.77	59.69	82.59	84.2	81.24	80.65	29.23	32.22
2019	+Proposed	**95.57**	**88.5**	**81.84**	**74.66**	**84.52**	**88.53**	**82.68**	**87.64**	**29.45**	**32.96**
WACV	ASRF [9]	70.28	76.66	42.98	35.88	69.69	70.52	79.53	75.01	17.88	20.69
2021	+Proposed	**91.64**	**89.8**	**75.27**	**70.86**	**87.6**	**90.55**	**82.96**	**87.92**	**18.06**	**22.1**
ICCV	mGRU [1]	92.29	86.87	67.33	63.89	73.83	74.46	68.36	75.31	39.45	36.14
2021	+Proposed	**93.91**	**89.79**	**66.16**	**67.8**	**78.98**	**86.2**	**74.29**	**81.86**	**40.98**	**37.01**
ICCV	H-ASRF [1]	49.24	65.28	76.51	78.31	89.89	93.77	85.68	88.11	23.31	32.63
2021	+Proposed	**94.14**	**87.83**	**90.97**	**91.8**	**93.73**	**95.95**	**89.11**	**93.45**	**24.54**	**34.55**
ICCV	H-MSTCN [1]	72.83	80.38	76.7	78.45	91.24	94.08	86.13	88.23	25.25	34.62
2021	+Proposed	**96.01**	**88.56**	**90.35**	**91.87**	**94.29**	**96.38**	**89.09**	**93.44**	**26.07**	**36.41**
ICCV	H-SSTDA [1]	77.71	80.83	76.48	78.31	90.73	94.13	85.65	88.1	26.05	35.46
2021	+Proposed	**94.5**	**88.11**	**90.97**	**91.8**	**92.77**	**95.33**	**88.78**	**93.02**	**26.06**	**36.54**
BMVC	ASFormer [23]	94.44	87.83	**83.57**	72.66	87.01	88.62	**81.85**	83.39	28.00	32.85
2022	+Proposed	**94.92**	**90.96**	81.72	**77.51**	**87.11**	**90.58**	79.4	**85.01**	**28.94**	**34.53**
ECCV	UVAST [2]	80.94	83.51	37.87	42.19	62.39	66.78	49.42	57.76	46.46	34.61
2023	+Proposed	**86.5**	**85.96**	**45.35**	**52.39**	**63.45**	**73.99**	**54.49**	**65.32**	**48.43**	**36.46**
MM	CETNet [20]	92.1	86.7	76.75	81.16	**79.48**	71.48	78.22	84.94	30.94	32.40
2023	+Proposed	**95.38**	**91.34**	**81.32**	**86.96**	76.98	**74.36**	**84.65**	**89.17**	**32.26**	**34.67**
Average Improvement		**11.40**	**6.15**	**10.45**	**12.55**	**4.71**	**6.25**	**2.48**	**6.30**	**0.86**	**1.33**

Table S3. F-1 score at 0.1 IOU and Edit score for the Proposed data augmentation on different sizes of the Breakfast datasets on multiple `SOTA` architectures and `I3D` features (50% data, 10% data, 5% data). Unsurprisingly, the proposed augmentation is highly effective for smaller sizes of the data. Here, **"H-"** refers to HASR [1] architecture

Date size		**5.0 %**		**10.0 %**		**50.0 %**	
Venue	**Architecture**	**Edit**	**F1@10**	**Edit**	**F1@10**	**Edit**	**F1@10**
CVPR 2019	MS-TCN [7]	44.15	46.29	45.87	48.59	52.11	53.93
	+Proposed	**49.34**	**53.09**	**50.87**	**55.74**	**57.53**	**61.73**
WACV 2021	ASRF [9]	32.62	32.74	38.11	39.41	53.29	55.45
	+Proposed	**34.84**	**37.42**	**38.24**	**39.96**	**51.34**	**53.88**
ICCV 2021	H-ASRF [1]	41.79	42.74	44.41	48.05	55.84	57.50
	+Proposed	**48.19**	**52.56**	**46.37**	**52.98**	**56.96**	**61.03**
ICCV 2021	H-mGRU [1]	37.95	34.76	45.91	48.56	57.33	58.62
	+Proposed	**50.89**	**53.72**	**53.83**	**57.51**	**58.52**	**63.52**
ICCV 2021	H-MSTCN [1]	44.49	46.4	46.81	50.15	56.86	58.07
	+Proposed	**49.70**	**52.49**	**54.18**	**59.24**	**58.56**	**62.51**
ICCV 2021	H-SSTDA [1]	42.95	43.66	41.92	44.7	54.93	57.91
	+Proposed	**47.69**	**52.27**	**51.24**	**56.61**	**56.90**	**62.53**
BMVC 2022	Asformer [23]	40.9	44.69	41.7	43.87	48.69	50.29
	+Proposed	**47.32**	**49.46**	**46.28**	**48.74**	**53.77**	**58.20**
ECCV 2023	UVAST [2]	7.17	9.31	10.58	14.76	18.56	23.58
	+Proposed	**14.41**	**18.93**	**14.79**	**19.81**	**20.12**	**27.23**
Gain		**6.3**	**8.67**	**5.06**	**6.56**	**2.01**	**4.41**

Table S4. Ablation study for various configurations of proposed technique, and curriculum strategy, using `I3D` features on `JIGSAWS-Knot-tying`. "1,2,3,4" refers to the sets of `UFRs`,`MFRs`,`AMFRs` and `AUMRs` in the proposed curriculum ordering. The table also shows the ablation for changing the ordering.

		MSTCN [7]		**mGRU [1]**		**SSTDA [5]**	
Algorithm	**Setting**	**Edit**	**F1@10**	**Edit**	**F1@10**	**Edit**	**F1@10**
Baseline	-	81.24	80.65	68.36	75.31	85.39	82.82
Baseline+Aug	-	82.10	85.12	71.98	79.48	85.00	81.09
Baseline+ Aug + CL	1,2,3,4	**82.68**	**87.64**	**74.29**	**81.86**	**86.38**	83.81
	1,2,4,3	82.07	86.27	71.94	81.18	85.12	**84.84**
	4,3,2,1	80.69	86.08	73.84	80.96	80.03	81.40

Table S5. Comparison of the proposed augmentation technique against state-of-the-art augmentation techniques on the `JIGSAWS-Knot-tying` dataset using `I3D` features.

		AsFormer [23]		ASRF [9]		HASR-MSTCN [1]	
Algorithm	**Venue**	**Edit**	**F1@10**	**Edit**	**F1@10**	**Edit**	**F1@10**
CutMix [24]	ICCV19	77.7	77.79	56.53	55.67	62.76	63.82
Cutout [6]	Preprint17	73.43	76.60	70.59	74.65	83.57	80.41
Mixup [26]	ICLR18	78.18	74.83	48.84	43.20	71.42	68.73
RandMix [22]	CVPR23	76.14	73.15	58.65	61.32	77.05	74.88
TubeMix [22]	CVPR23	74.68	73.11	58.47	56.3	76.38	74.46
FrameMix [22]	CVPR23	78.75	80.23	64.14	67.48	79.47	77.88
Dynaugment [10]	ICLR23	79.32	80.04	74.15	67.41	89.05	85.15
Proposed Technique		**79.4**	**85.01**	**82.96**	**87.92**	**89.09**	**93.44**