Real-Time Detection of School Bullying Using CCTV

EJIRO ADAMS UBINI
UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
PROJECT LEAD: DR. YOGESH RAWAT

Problem

- Surveillance systems in school rely on human monitoring, prone to oversight.
- limited real-time systems that detect bullying behaviors using CCTV cameras.
- No public dataset tailored to the school bullying context.



Contributions

- 12-class curated dataset
- Non-bullying + mixed-label bullying clips
- Clips from UCF-Crime, RWF-2000, movies & social media
- Trained action recognition model





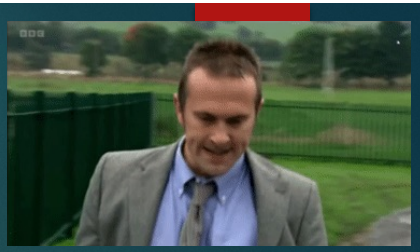
Hold & Kick



Hair grab



Aggressive holding



Shove



Headbutt attack



Hit with an object



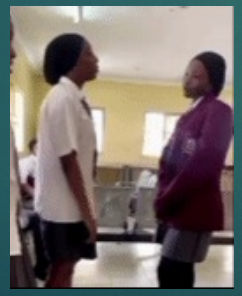
Elbow strike



Drag



Punch



Slap



Choke



Kick



Non-bullying

Dataset collected

n/o	Classes	Number of videos
1	forceful choking	90
2	dragging a person	41
3	elbow strike	12
4	hair pulling	48
5	headbutt attack	8
6	hitting a person with an object	247
7	aggressive holding	288
8	kicking a person	296
9	punching a person	706
10	forceful shoving	430
11	slapping a person	119
12	non-bullying	449
	multi label	347
	TOTAL	3081

T2L Test Results after training (Sampled 25 frames, 20 epochs)

Per-class accuracy across the 12 categories

