

ChimpACT: A Longitudinal Dataset for Understanding Chimpanzee Behaviors

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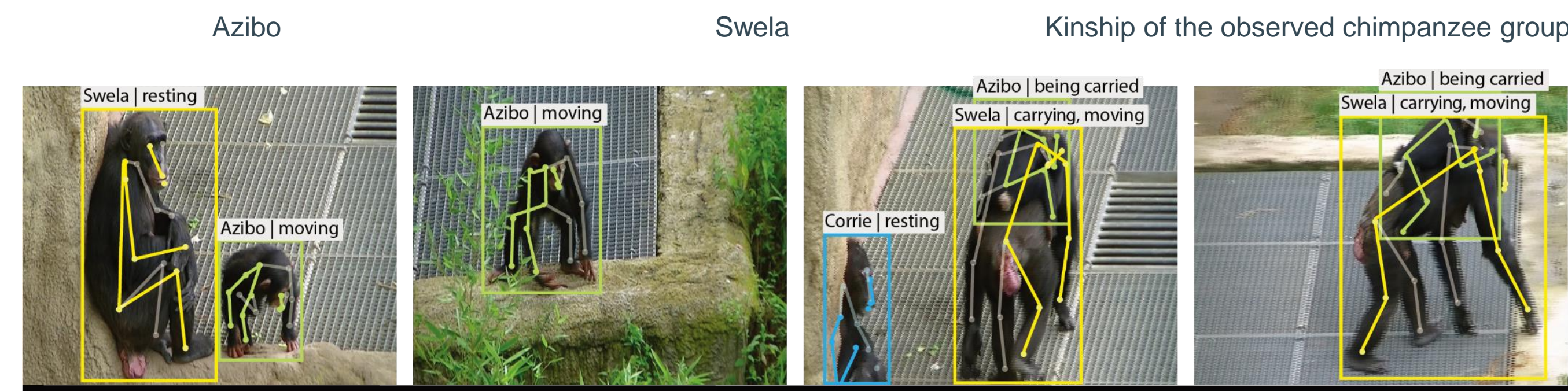
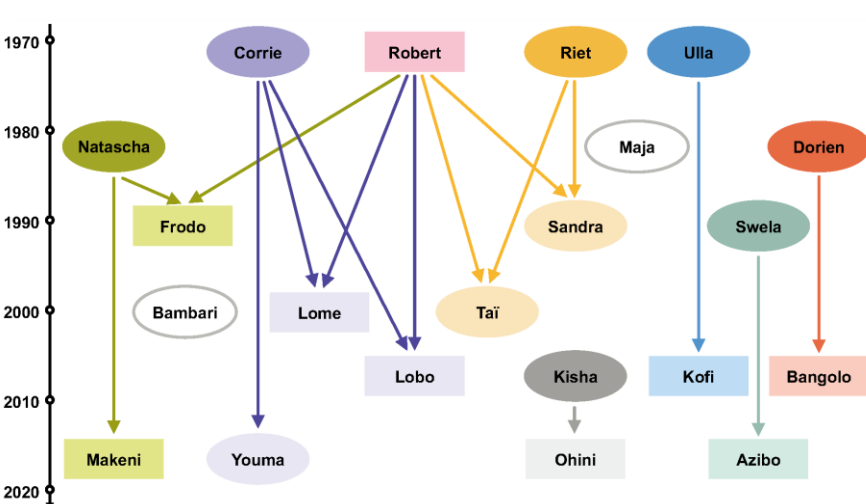
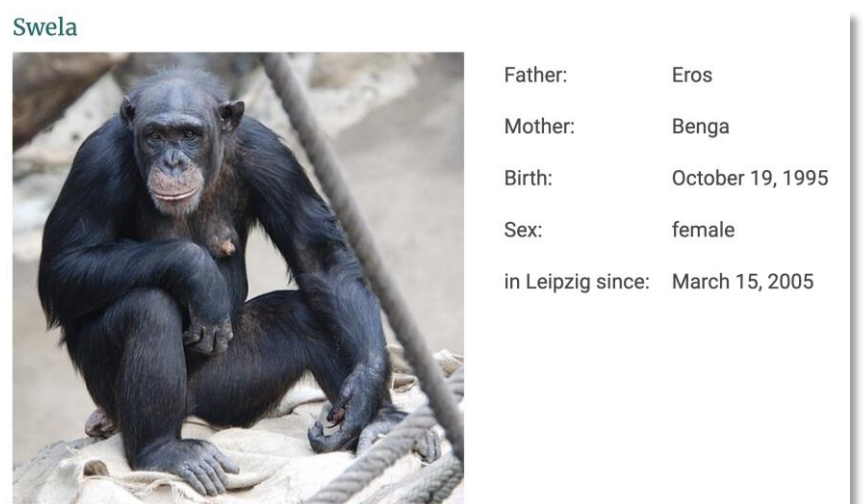
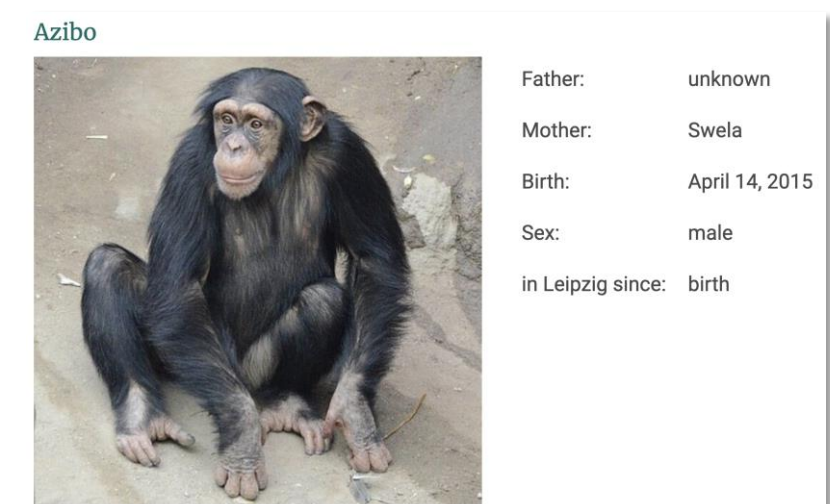
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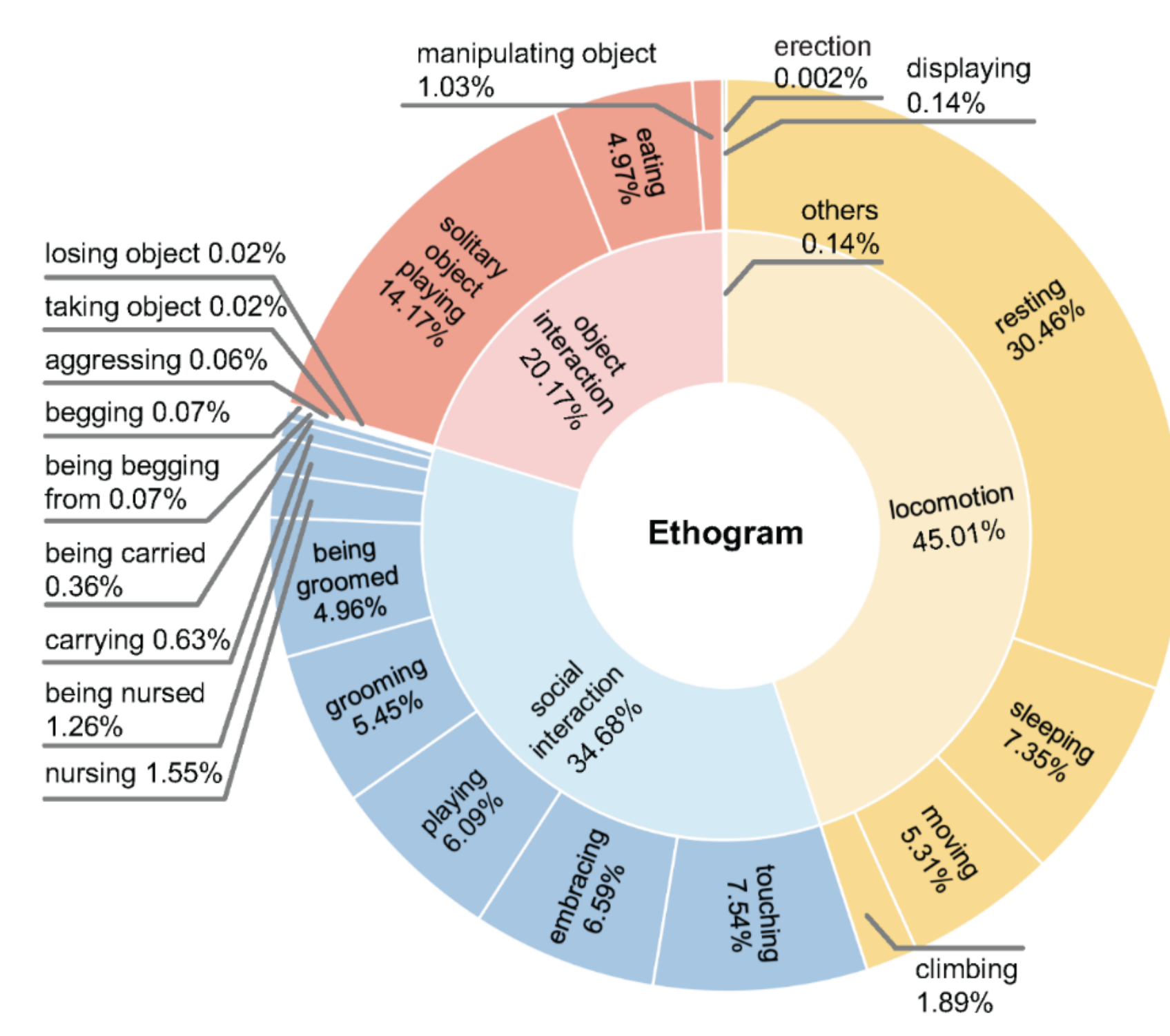


- Chimpanzee-A group housed at Leipzig Zoo, Germany
- 2 hours of **longitudinal** focal video recordings between **2015 ~ 2018**
- Focal sampling of **Azibo**
- Rich annotations**
- Ethogram**

Dataset	Species	Track 1 detection, tracking, ReID				Track 2 pose estimation			Track 3 action recognition		Source	
		ID #	frame #	box #	track	frame #	pose #	track dim.	class #	label #		
AP-10K (Yu et al., 2021)	G	x	x	x	x	10,015	13,028 [<500]	x	2D	x	x	I
AnimalKingdom (Ng et al., 2022)	G	x	x	x	x	33,099	99,297 [576]	x	2D	140	30,100 [0]	I
OpenApePose (Desai et al., 2022)	P	x	x	x	x	71,868	71,868 [18,010]	x	2D	x	x	I
OpenMonkeyChallenge (Yao et al., 2023)	P	x	x	x	x	111,529	111,529 [<10,000]	x	2D	x	x	I & Z
OpenMonkeyStudio (Bala et al., 2020)	M	x	x	x	x	194,518	33,192 [0]	✓	3D	x	x	C (6.7m ²)
MacaquePose (Labuguen et al., 2021)	M	x	x	x	x	13,083	16,393 [0]	x	2D	x	x	I & Z
SIPEC (Marks et al., 2022)	M	4	191	2,200 [0]	✓	x	x	x	x	4	0	C (15m ²)
CCR (Bain et al., 2019)	C	13	936,914	1,937,585	✓	x	x	x	x	x	x	W
ChimpACT (Ours)	C	23	160,500	56,324	✓	16,028	56,324	✓	2D	23	64,289	CP (4400m ²)

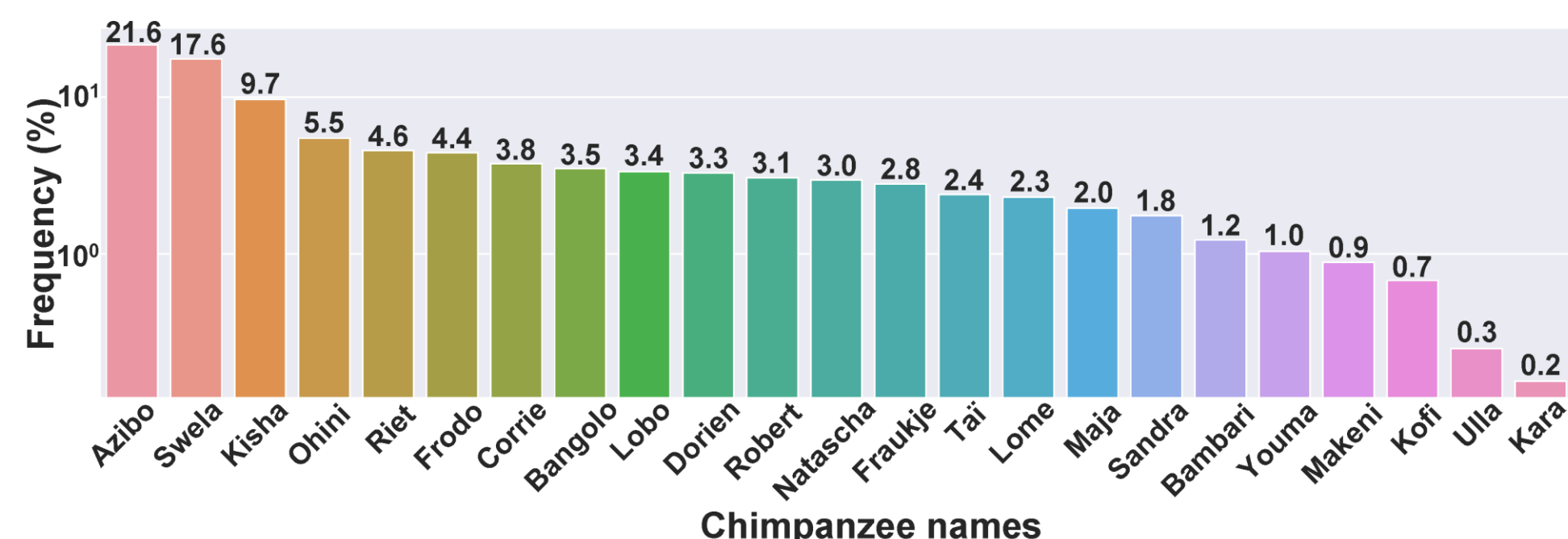


Sample frames and annotations from a ChimpACT clip.

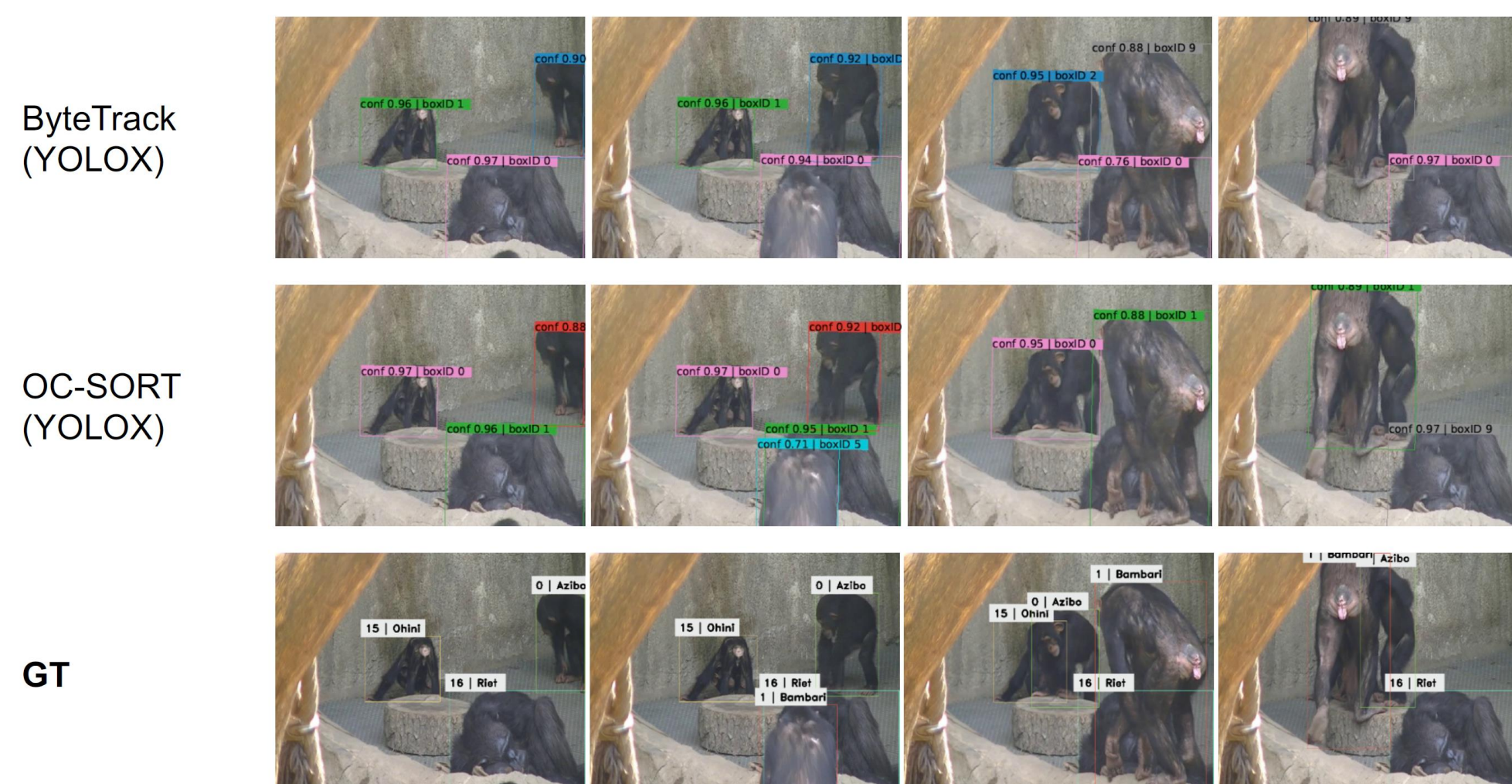


Ethogram and distribution of the annotated behavior categories.

Track1: Detection, tracking, and ReID

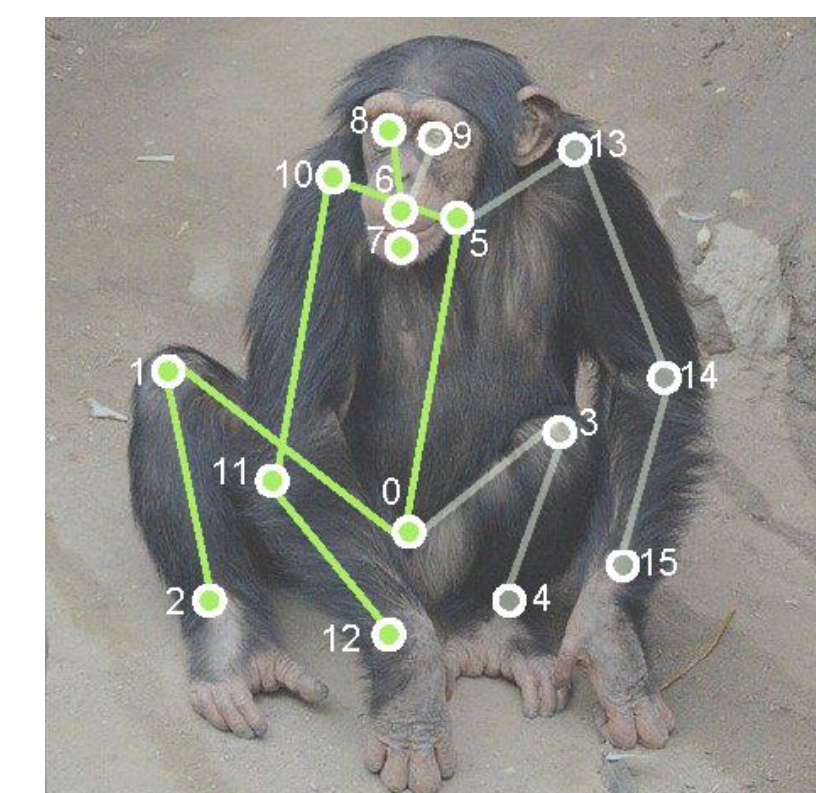


Distribution (in log scale) of annotations for each individual.



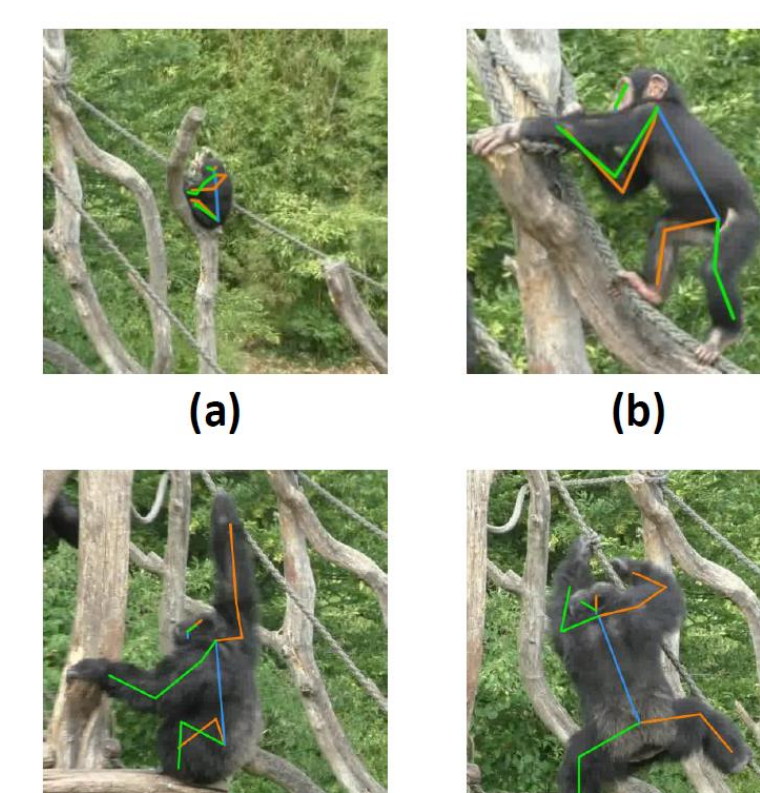
Qualitative results of representative methods on the ChimpACT test set on the tracking task.

Track2: Pose estimation



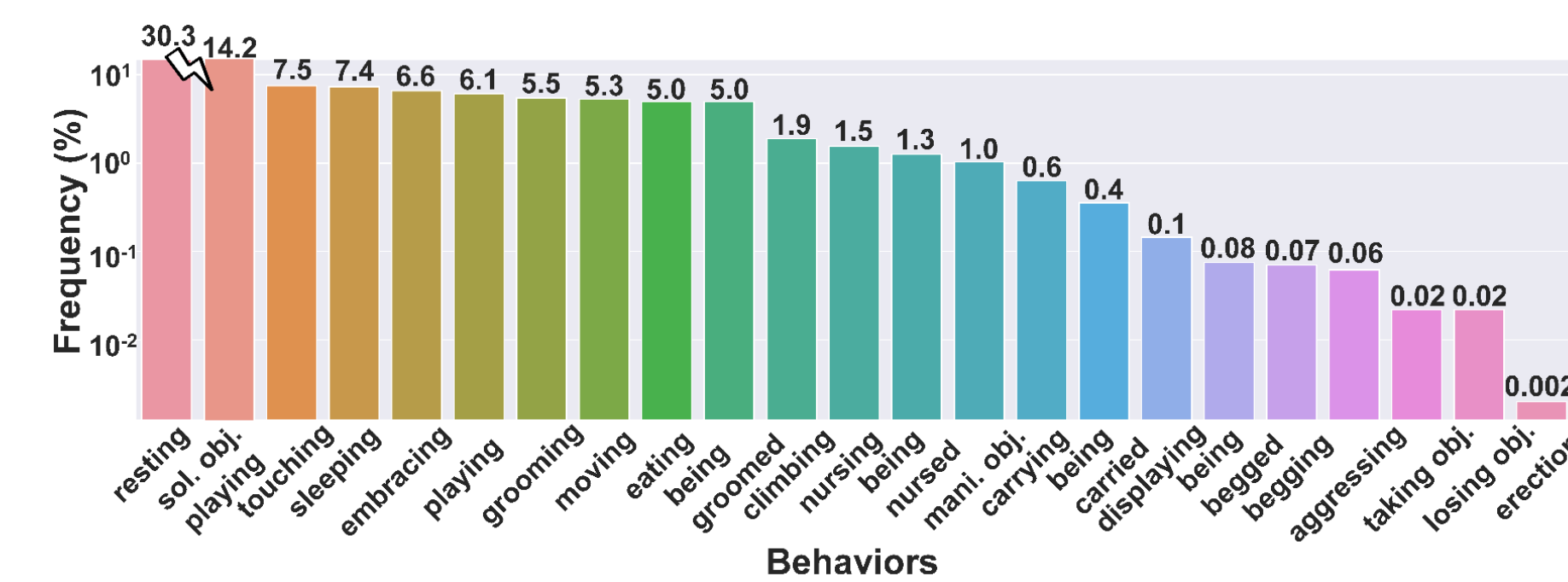
No.	Definition	No.	Definition
0	Root of hip	8	Right eye
1	Right knee	9	Left eye
2	Right ankle	10	Right shoulder
3	Left knee	11	Right elbow
4	Left ankle	12	Right wrist
5	Neck	13	Left shoulder
6	Upper lip	14	Left elbow
7	Lower lip	15	Left wrist

No.	Action	PCK@0.05	PCK@0.1
(a)	resting	43.8	62.5
(b)	climbing	81.2	93.8
(c)	resting	68.8	93.8
(d)	climbing	75.0	100.0



Qualitative results of representative methods on the ChimpACT test set on the pose estimation task.

Track3: Spatiotemporal action detection



Distribution (in log scale) of annotations for each behavior.



Qualitative results of representative methods on the ChimpACT test set on the action detection task.

