Annotation KPIs
Benchmark Study

Key Facts

- **157h** to annotate **1h** of Egocentric Video with Ramblr's AI-powered annotation pipeline
- Quality metrics: **0.94 IOU** and **0.90 F1 score** achieved
- **97% of 109,370** frames annotated automatically resulting in an avg. annotation time of **5.2s** per frame
- Diverse dataset with **14** different scene types
- Open vocabulary with **529** unique object instances
- Accurate mask and category annotations for **all context-relevant objects** on every frame
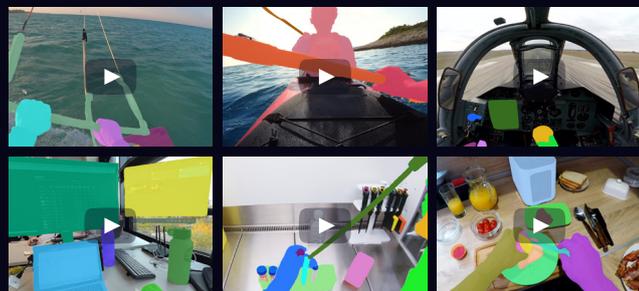
Test Dataset

- **Collection devices:** Meta Quest 3, GoPro, Vuzix Blade, Project Aria
- **Datasets:** Collected by Ramblr, Ego4D, Aria Pilot Dataset

	Video duration	Unique objects
Total	1h	529
Max per video	5min	10
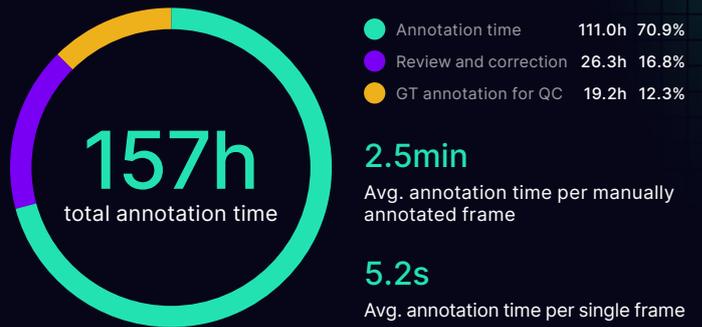
* Frame rate: 30 fps

Video Duration / Scene Type (% of total dataset)

51 videos

Cooking	23%
Sports	18%
Office work	12%
Crafting	10%
Social interaction	9%
Pet care	7%
Household activity	4%
Arts	3%
Eating	3%
Studying	3%
Personal hygiene	3%
Playing	2%
Lab work	1%
Flight training	<1%

Annotation Time

1 Hour of Egocentric Video

157h total annotation time

● Annotation time	111.0h	70.9%
● Review and correction	26.3h	16.8%
● GT annotation for QC	19.2h	12.3%

2.5min
Avg. annotation time per manually annotated frame

5.2s
Avg. annotation time per single frame

Video frames	Auto-annotated frames	Manually annotated frames
109,370	105,568 (97%)	3,802 (3%)

Quality

Average IOU and F1 Score for Dataset

IOU	0.94	
F1 score	0.90	

1125 (1%)
Ground truth frames for quality control

Annotations

- Temporal consistent segmentation of object instances
- Multi-object tracking for all context relevant objects
- AI-assisted annotation guidance to minimize subjective interpretation

Annotate Context Relevant Objects

Open vocabulary: All objects the ego interacts with; Ramblr's AI-models detect hand-object interactions and gaze signals to provide annotation guidance

Closed vocabulary: Objects always considered to be relevant e.g., mobile phones and laptops. Ramblr's custom trained detection model provides annotation guidance

Do you want to hear more about Ramblr?
Reach out to us at info@ramblr.ai