

The 2020 DAVIS Challenge on Video Object Segmentation - CVPR 2020 Workshops

# Interactive Video Object Segmentation via Shift Modules

Yuk Heo, Yeong Jun Koh, and Chang-Su Kim



# Introduction

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- Interactive Video Object Segmentation
  - Assumes that an user gives iterative refinement inputs
  - Segment the object in the video iteratively

# Introduction

- Scenario of DAVIS challenge 2019
  - I. Scribbles are given for each target objects in a single frame
  - II. Segment the video objects



Input scribbles

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- Scenario of DAVIS challenge 2019
  - I. Scribbles are given for each target objects in a single frame
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First round



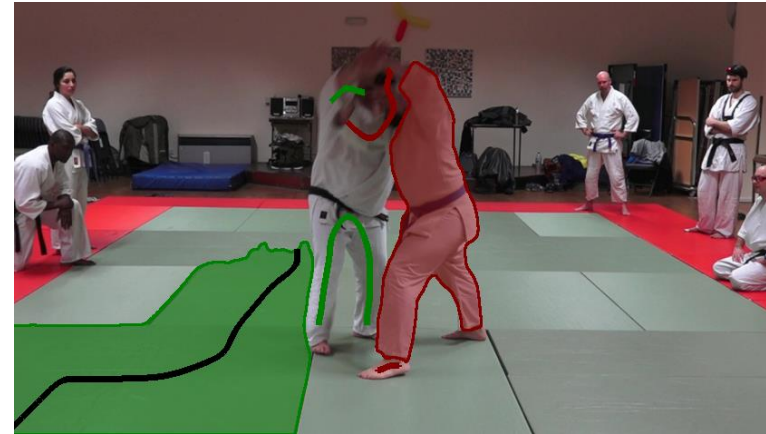
Input scribbles

# Introduction

- Scenario of DAVIS challenge 2019
  - I. Scribbles are given for each target objects in a single frame
  - II. Segment the video objects
  - III. From the worst segmented frame, scribbles for refinement are given
  - IV. Segment the video objects



Input of the first round



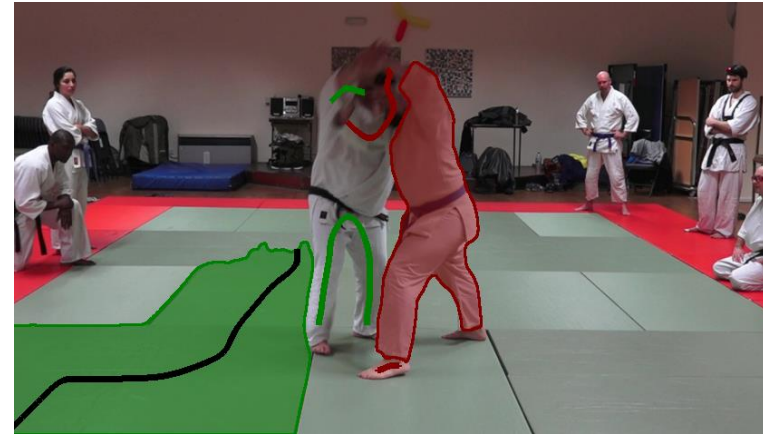
Input of the rest rounds

# Introduction

- Scenario of DAVIS challenge 2019
    - I. Scribbles are given for each target objects in a single frame
    - II. Segment the video objects
    - III. From the worst segmented frame, scribbles for refinement are given
    - IV. Segment the video objects
- Second to eighth round



Input of the first round



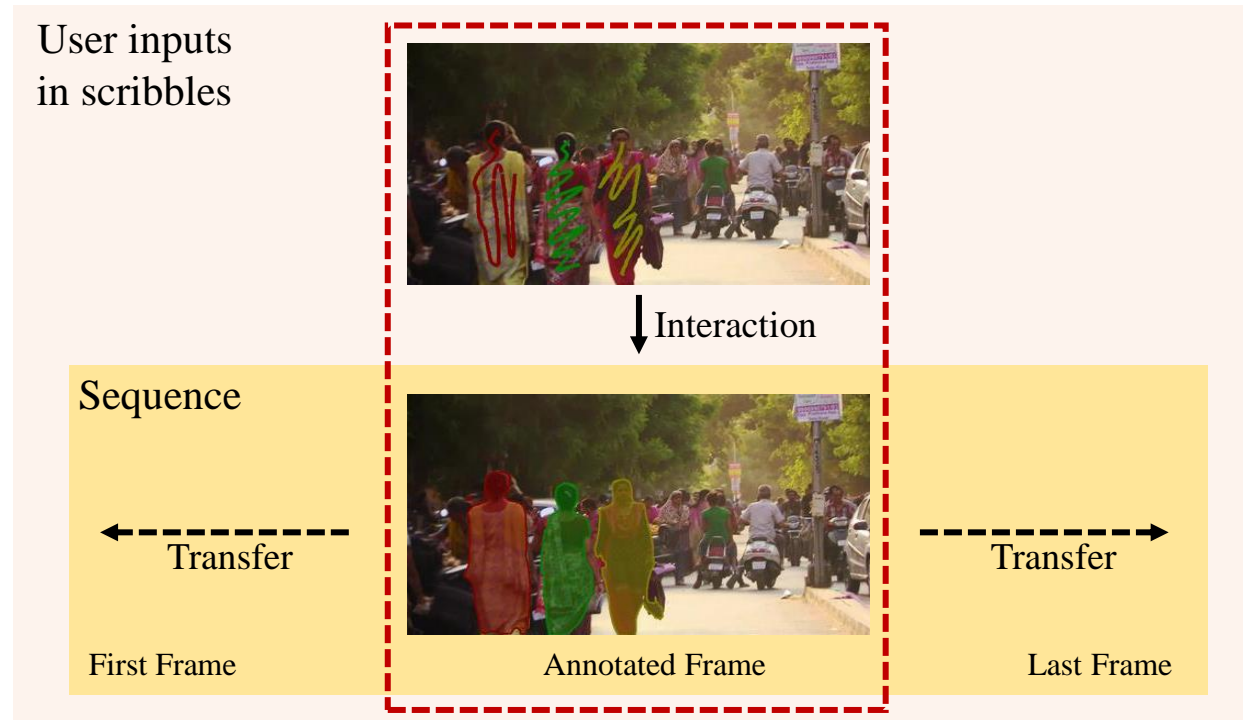
Input of the rest rounds

## Proposed Algorithm



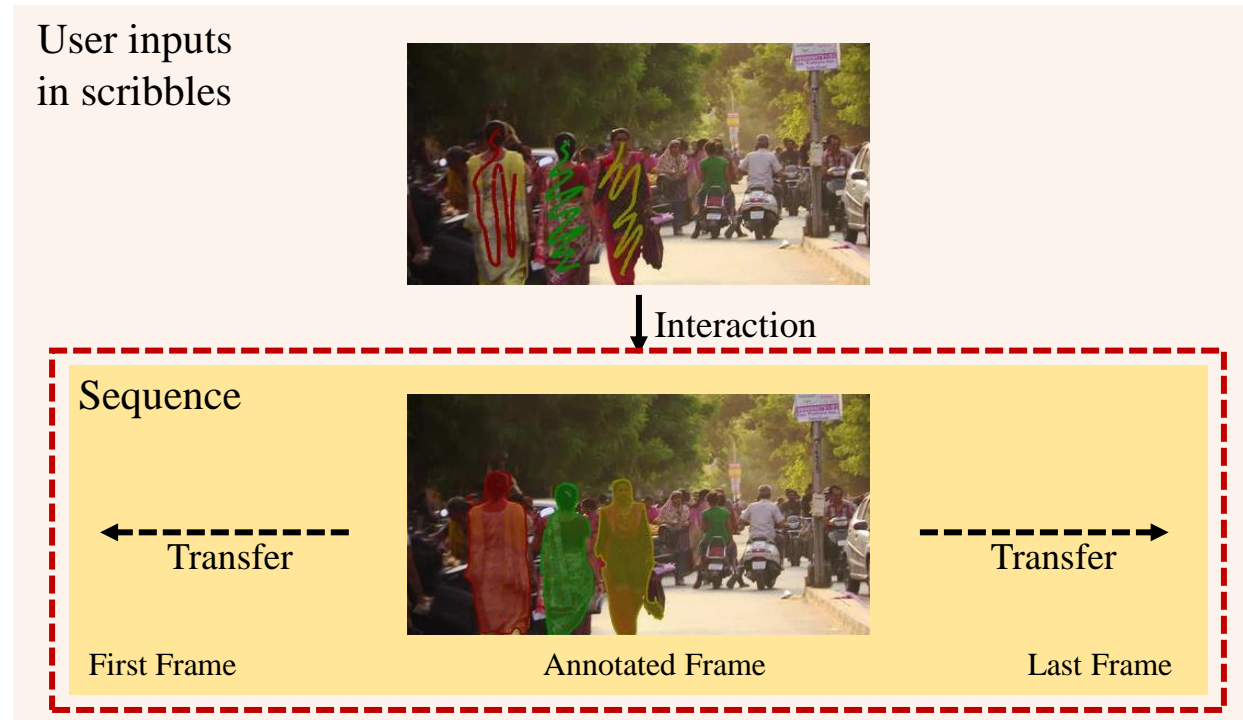
# Dividing networks

- Adopted the framework from [1]
  - Network for interaction
  - Network for transfer



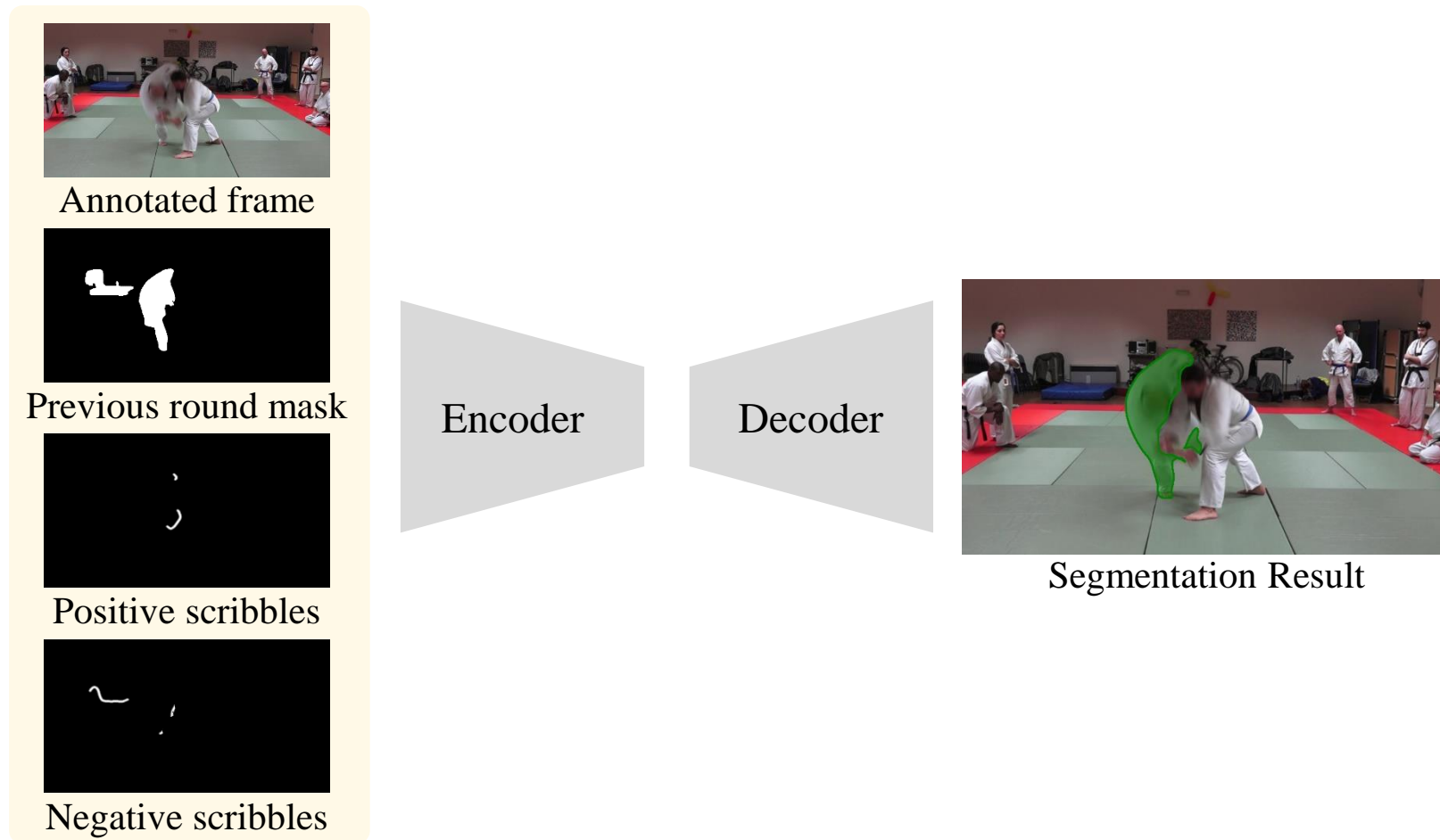
# Dividing networks

- Adopted the framework from [1]
  - Network for interaction
  - Network for transfer



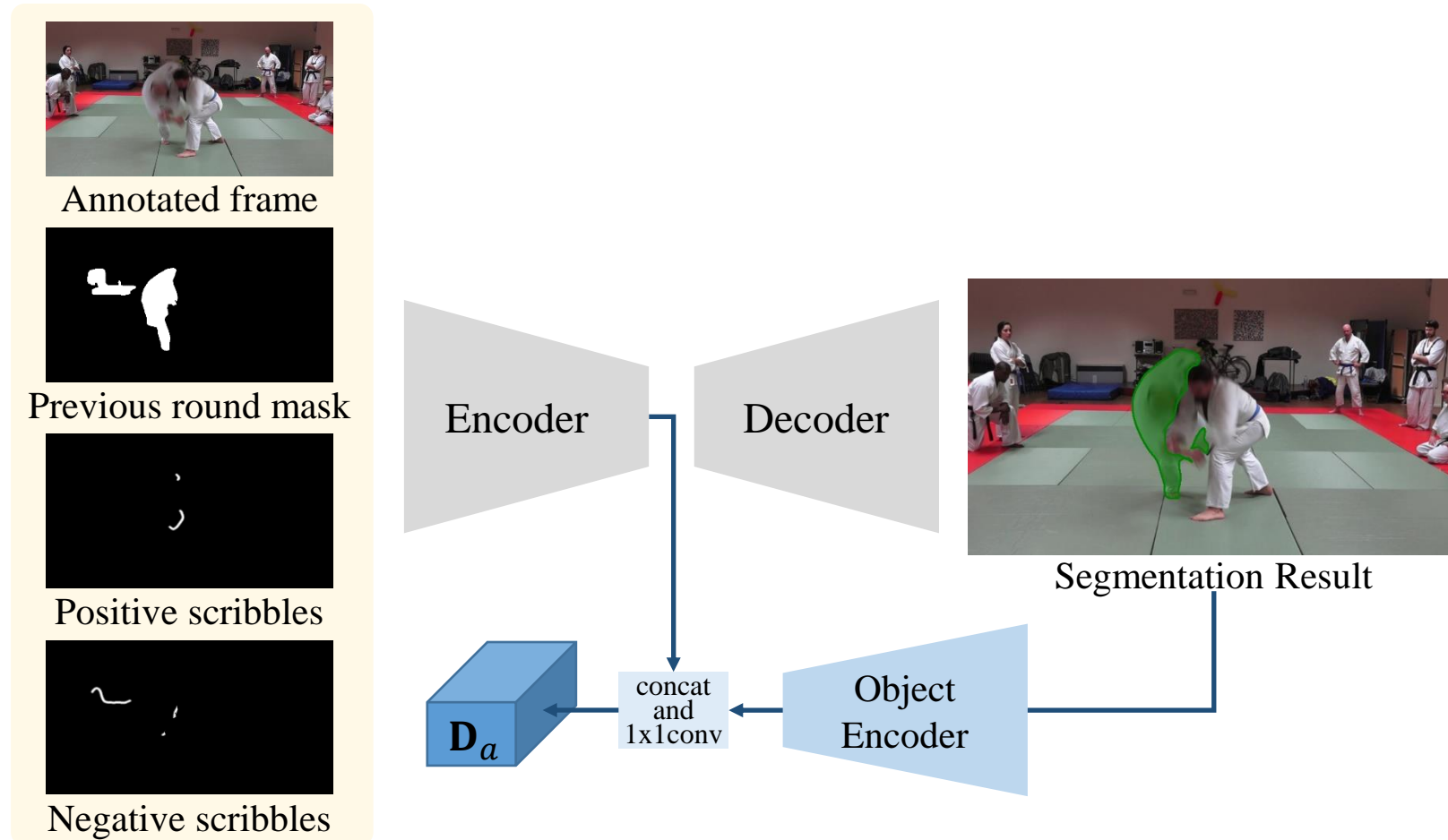
# Network for interaction

- Network for interaction in the annotated frame



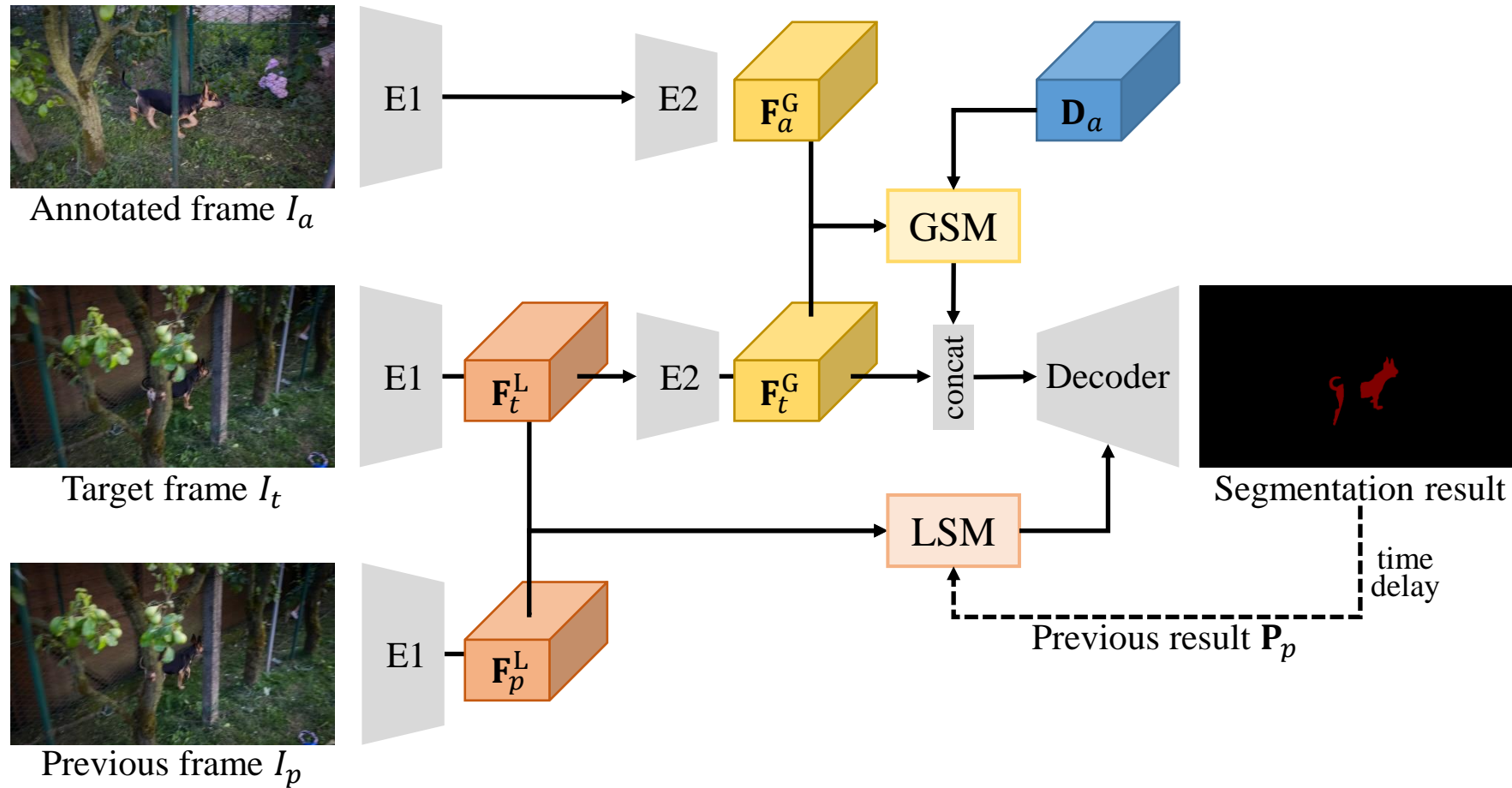
# Network for interaction

- Network for interaction in the annotated frame



# Network for transfer

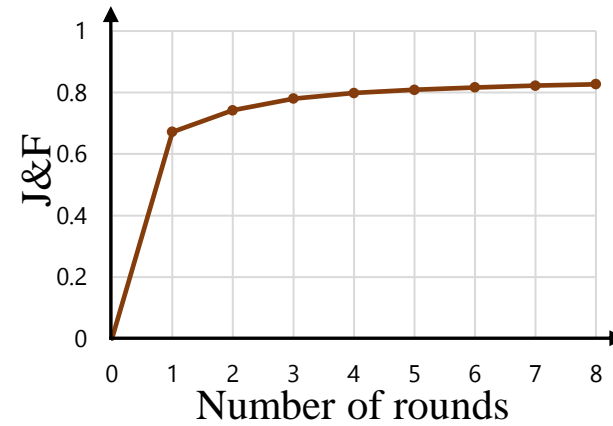
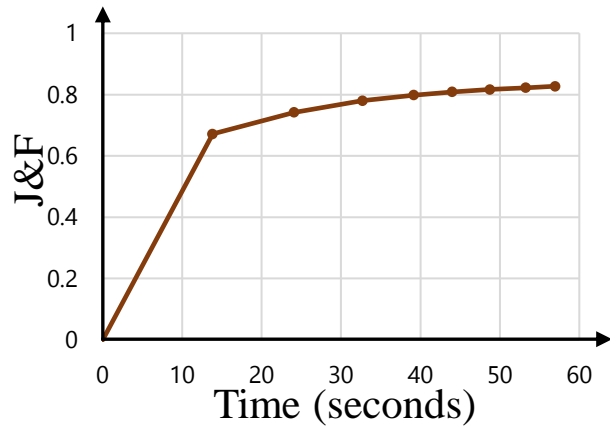
- Network architecture



## Experimental result

# Experiment result

- DAVIS2017 validation set
  - Quantative result

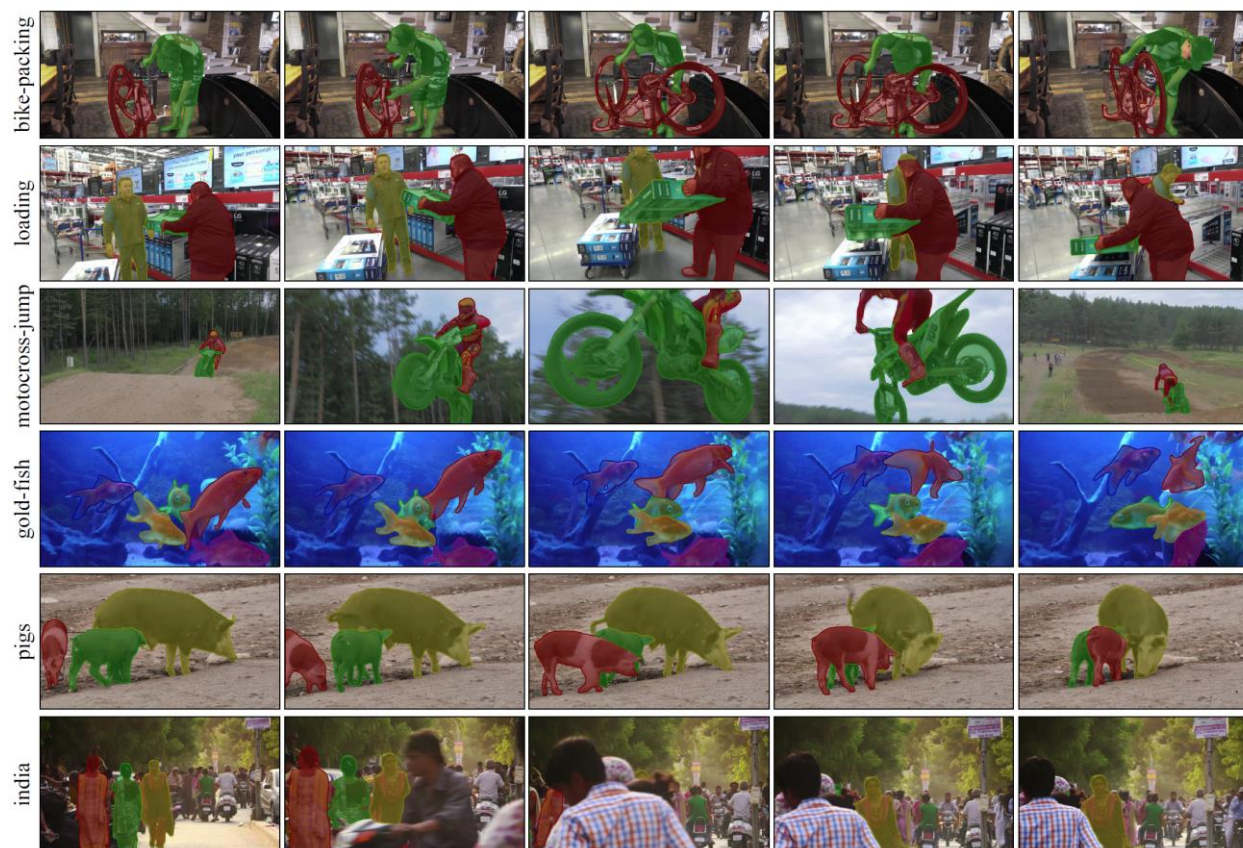


Method	AUC-J	J@60s	AUC-J&F	J&F@60s
Proposed	0.771	0.789	0.809	0.827



# Experiment result

- DAVIS2017 validation set
  - Qualitative result





Q&A

Thank you for your attention.