## A Cordial Sync: Going Beyond Marginal Policies for Multi-Agent Embodied Tasks

#### ECCV 2020 (Spotlight)

Unnat Jain<sup>1\*</sup>, Luca Weihs<sup>2\*</sup>, Eric Kolve<sup>2</sup>, Ali Farhadi<sup>3</sup>, Svetlana Lazebnik<sup>1</sup>, Aniruddha Kembhavi<sup>2,3</sup>, Alexander Schwing<sup>1</sup> \* Equal contribution by UJ and LW



Code, data, and pretrained models at: <a href="https://unnat.github.io/cordial-sync/">https://unnat.github.io/cordial-sync/</a>

#### Contributions

# 1. Decentralized MARL beyond marginal policies

# 2. FurnMove: Multi-Agent task with ongoing coordination





# Decentralized MARL beyond marginal policies

Previous methods: *Single marginal policy per agent* 



## Decentralized MARL beyond marginal policies

Cordial SYNC: *mix k marginals per agent* 



#### Cordial SYNC Agents



#### A Cordial Sync:

Going Beyond Marginal Policies for Multi-Agent Embodied Tasks <u>https://unnat.github.io/cordial-sync/</u>

#### Mirrored Gridworld Agents

## Interpreting Communication

