
COMP3411
13A WK3
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Part 1: Planning

- STRIPS
- Feature-Based Representation of Actions

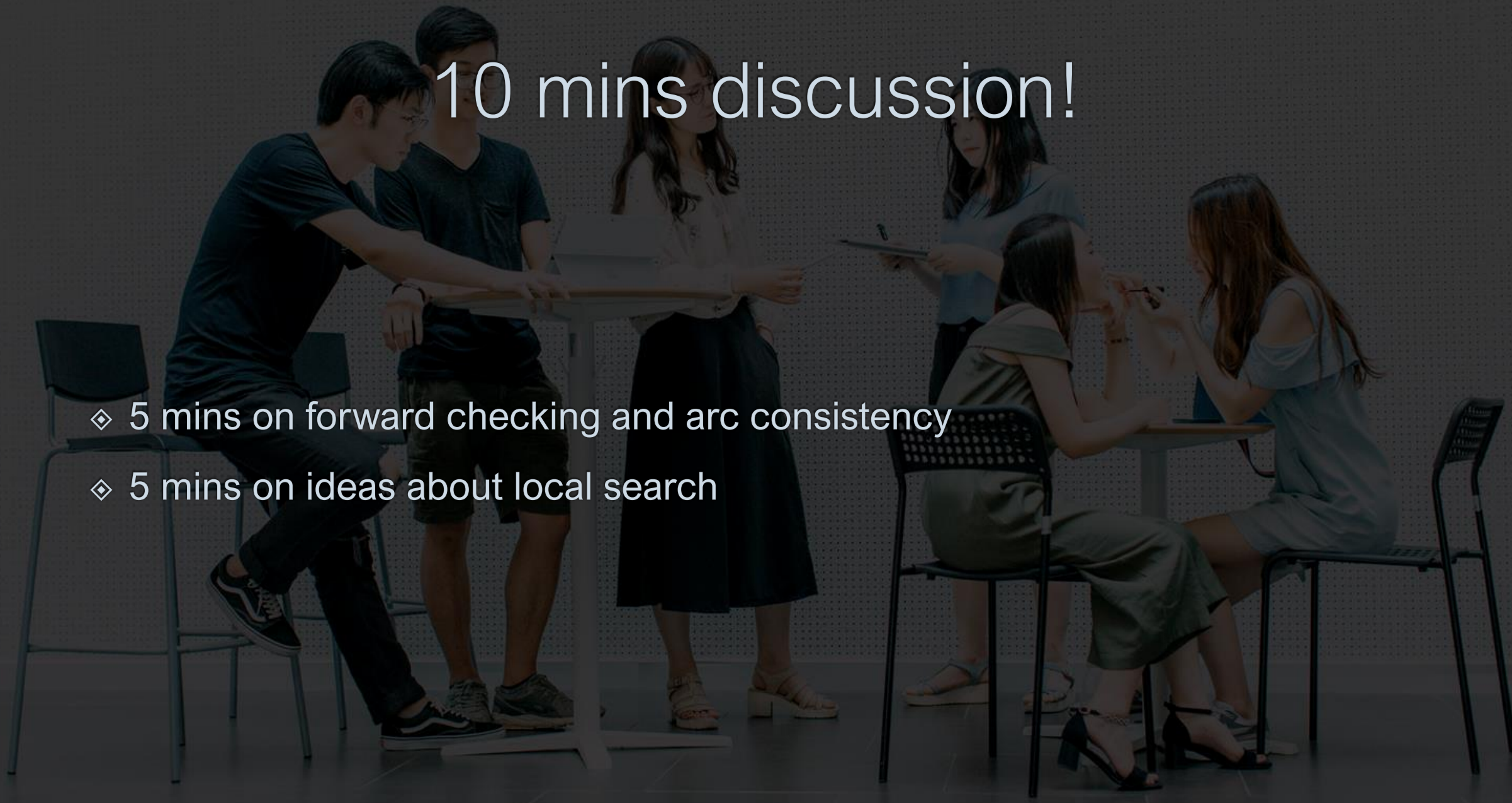
STRIPS

- For each action, specify
  - The precondition to satisfy for this action to be carried out, in the form of Boolean predicates of states
  - The effect of action, in the form of Boolean predicates of states
  - The unmentioned states are not affected.
- iPad demo

Feature-based Representation

- Need to specify for both actions and features
- For each action, specify the precondition
- For each feature, specify:
  - Causal rules that specify when the feature gets a new value
  - Frame rules that specify when the feature keeps its value
- Ipad demo

10 mins discussion!



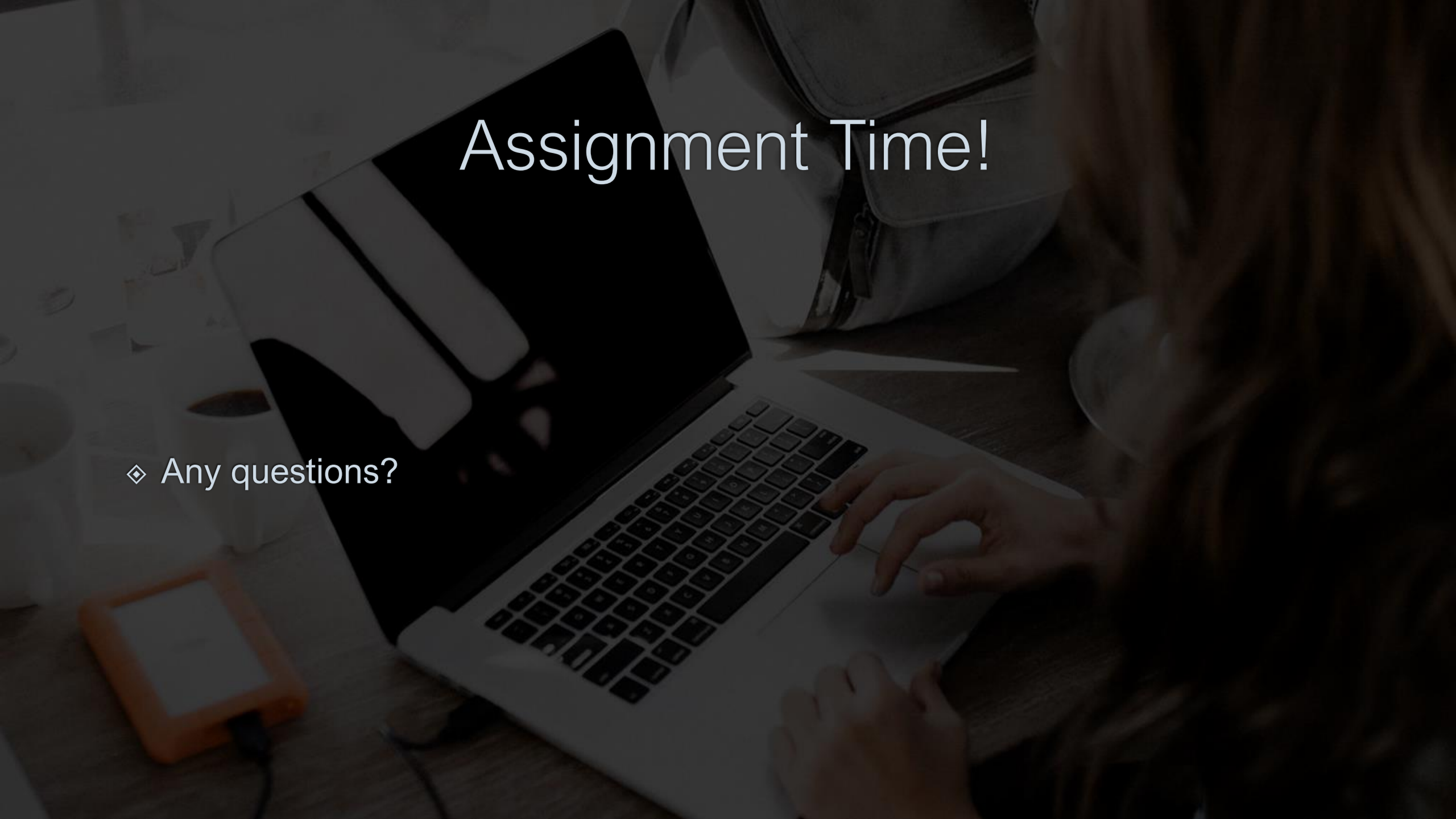
- 5 mins on forward checking and arc consistency
- 5 mins on ideas about local search

Part2: Decision Trees

- Entropy:

$$\sum_{i=1}^{n} -p_i \log_2 p_i$$

  - Entropy represents the number of bits to encode the information optimally, so the lower, the better
- To decide which feature to use for a node, can calculate the expected entropy across all the branches for the features, and select the feature with lowest expected entropy
- Ipad demo



Assignment Time!

- Any questions?

Questions/Feedback/Reminder

- Any questions?
- Any feedback?
- Don’t forget to do your homework!
  - Details in the announcement
  - Add 1 question each for part 1 and part 2 (2 questions in total) to your Microsoft form used for last week’s homework. Share the link with me if you’ve not already done so.
  - Post these questions to open learning