

DR

DeepRob

Discussion 6

How to Present Research Papers

University of Michigan and University of Minnesota



Final Project Overview

- Research-oriented final project
- Instead of a final exam!

Can be completed in teams of 1-3 people

- Objectives
 - Gain experience reading literature
 - Reproduce published results
 - Propose a new idea and test the results!

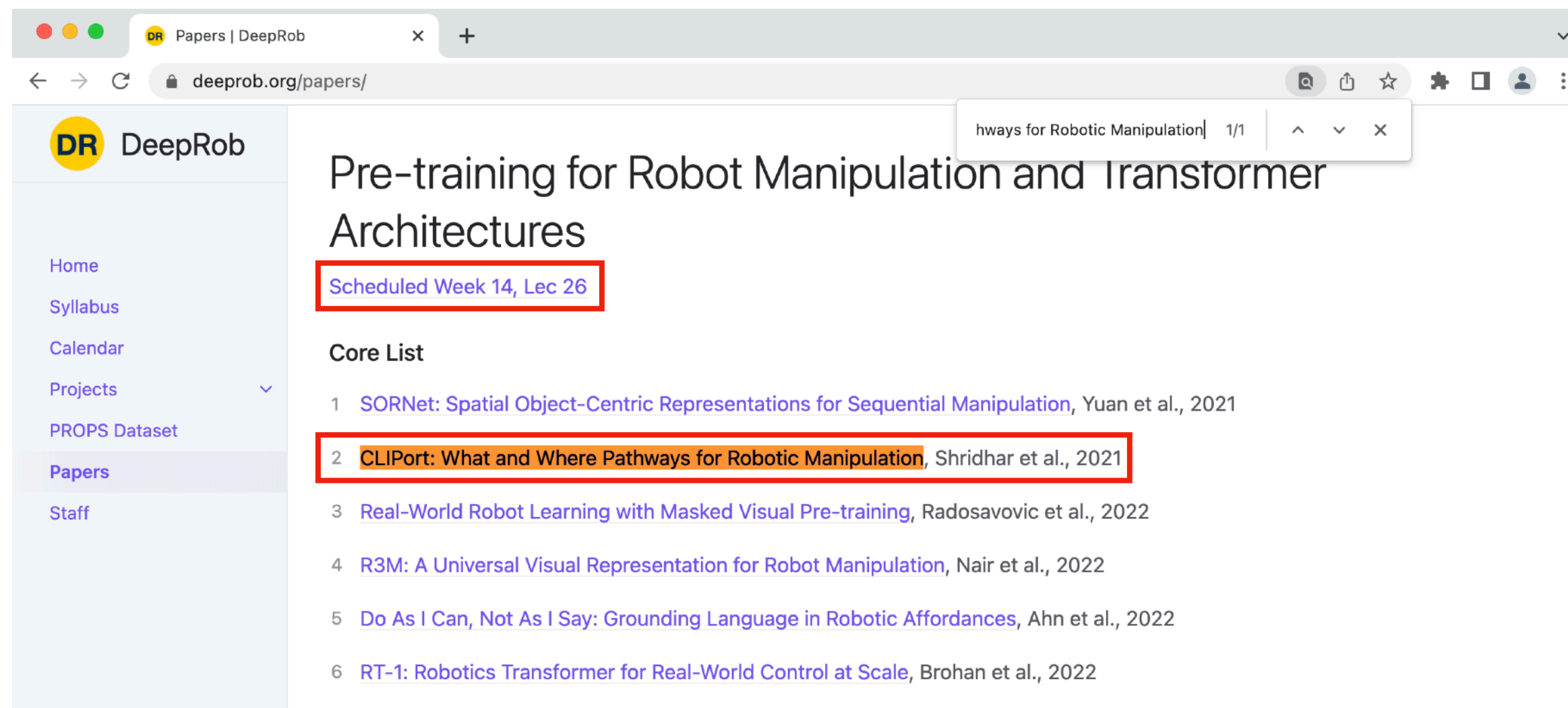
Final Project Teams and Paper Assignment

- Sent via email night of Thursday, Feb 9th
- If you didn't receive an assignment, contact Anthony
- **Paper reviews due one week before presentations**
- **Presentation slides due three days before lecture**
- **Instructions and templates: <https://deeprob.org/projects/finalproject/>**



Paper Review and Presentation Timeline

- Example: “CLIPort: What and Where Pathways for Robotic Manipulation”



The screenshot shows a web browser window with the URL `deepprob.org/papers/`. The page title is "Pre-training for Robot Manipulation and Transformer Architectures". A red box highlights the text "Scheduled Week 14, Lec 26". Below this, a "Core List" is displayed with six items. The second item, "CLIPort: What and Where Pathways for Robotic Manipulation, Shridhar et al., 2021", is highlighted with a red box. The other items in the list are:

- 1 SORNet: Spatial Object-Centric Representations for Sequential Manipulation, Yuan et al., 2021
- 2 **CLIPort: What and Where Pathways for Robotic Manipulation, Shridhar et al., 2021**
- 3 Real-World Robot Learning with Masked Visual Pre-training, Radosavovic et al., 2022
- 4 R3M: A Universal Visual Representation for Robot Manipulation, Nair et al., 2022
- 5 Do As I Can, Not As I Say: Grounding Language in Robotic Affordances, Ahn et al., 2022
- 6 RT-1: Robotics Transformer for Real-World Control at Scale, Brohan et al., 2022



Paper Review and Presentation Timeline

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deeprob.org/papers/

Pre-training for Robot Manipulation and Transformer Architectures

Scheduled Week 14, Lec 26

Core List

- 1 SORNet: Spatial Object-Centric Representations for Sequential Manipulation, Yuan et al., 2021
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- 4 R3M: A Universal Visual Representation for Robot Manipulation, Nair et al., 2022
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deeprob.org/calendar/#lec-26

Week 13; Perception for Manipulation

- Apr 4: LEC 24 Grasp Pose Detection [Related Papers](#)
- Apr 6: LEC 25 Tactile Perception for Grasping and Manipulation [Related Papers](#)
- Apr 7: DIS 13 Prologue: Transformer Architectures

Week 14; More Frontiers

- Apr 11: LEC 26 Transformer Architectures [Related Papers](#)
- Apr 13: LEC 27 More Frontiers [Related Papers](#)
- Apr 14: DIS 14 Remaining Challenges and Limitations



Paper Review and Presentation Timeline

- Example: “CLIPort: What and Where Pathways for Robotic Manipulation”

The image displays two screenshots from the DeepRob website. The left screenshot shows the 'Papers' page with a search bar containing 'hways for Robotic Manipulation' and a list of papers. The second paper, 'CLIPort: What and Where Pathways for Robotic Manipulation', is highlighted with a red box. The right screenshot shows the 'Calendar' page with a search bar containing 'hways for Robotic Manipulation' and a list of events. The event for 'Apr 4: LEC 24 Grasp Pose Detection' is highlighted with a red box.

- For this paper, review due Apr 4, slides due Apr 7



Paper Review

- Reviews should be completed collaboratively in project teams
- Expected format
 - Paper summary (1-2 paragraphs)
 - Review summary (1-2 paragraphs)
 - Specific points of feedback (variable)
- Submissions should be typeset in LaTeX
- Instructions and template on website:
 - <https://deeprob.org/projects/finalproject/#paper-review>



Paper Presentation

- Presentations should be completed collaboratively in project teams
- Expected format
 - What problem does this paper address?
 - What knowledge already exists relating to this problem?
 - What insight or approach is contributed by this paper?
 - What methods are used and key results found in evaluating the proposed approach?
 - What is left for future work?
- Submissions should be formatted in DeepRob theme
- Instructions and template on website:
 - <https://deeprob.org/projects/finalproject/#paper-presentation>



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