

CS 309: Autonomous Intelligent Robotics

FRI I

Lecture 8: How to Read Papers

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A couple of quick notes

- Homework 1: Due tonight
 - Any questions?
- Don't forget what you learned in the PDDL lectures
 - That homework goes out next week!
- Reading 1: Due Monday night
 - It should be short and fast. Try to enjoy it.
 - I'll bring in videos!
 - It was featured in a short documentary:
<https://www.youtube.com/watch?v=-iaiRW3URto>

Research Papers

- Papers document scientific research
 - They are subject to peer-review before publication
 - They generally discuss and test a hypothesis, or develop a new system or method
 - They are the primary source for new scientific knowledge

Types of Papers

- Conference Papers
 - In Computer Science, this is where most of the action is
 - A “call for papers” is issued almost 8 months or so before the conference
 - But everyone knows when the conference will collect papers, for long-standing and prestigious conferences
 - Papers are submitted by a deadline, then peer-reviewed generally by 3 reviewers and 1 meta
 - For important areas, big results, or controversial topics, you may see more reviewers
 - You can expect to see whether your paper got in in about a month
 - They rate accept/reject
 - Then you revise it
 - Accepted publications are then presented as live talks or posters at the conference

Types of Papers

- Journal Articles
 - Collected on a continual basis.
 - Longer review cycles
 - Generally considered more prestigious and important than conference papers
 - Peer review still by around 3 people, more depending on circumstances
 - They rate: accept, reject, revise and resubmit, minor revision, or (sometimes) summary reject
- Publication in top journals can be a career maker
 - Science/Nature

The Peer-Review Process

- Journals have editors, conferences have the Program Committee (PC)
 - The editors/PC appoint reviewers
 - The reviewers read the paper and score it
 - A meta-reviewer compiles those reviews and assesses a score
 - The editors/PC triage the papers
 - Top papers will be discussed but are known to be accepted
 - Bottom papers will not be discussed
 - Papers in the middle are debated
 - At the end of the debate, they rank the papers, and mark the bottom one which should be accepted, then notify the authors
 - At this point, after revision by the authors, the papers are compiled, copy-edited, and published

Not All Papers are Created Equal

- Journals are generally considered top
- Conferences second
- Workshops are special sessions at conferences gathering like-minded people, and are sort of third-place
- Symposia are like workshops that are not hosted at conferences
 - Symposia and workshops generally host stuff that is more discussion-fodder, and is not as tightly reviewed

Citations

- People “score” papers based on their citations
 - And the citations of the people who cite them
- Influential papers have many citations
- Journals and conferences are ranked based on these citations + their level of selectivity
 - This ranking is semi-informal

Reading Research Papers

- Read with a critical eye
 - Is the paper outdated, possibly?
 - Can it live up to its claims?
 - What exactly do they claim?
 - Can I improve on this?
 - Can I use this?