

The Seventeenth Symposium on Educational Advances in Artificial Intelligence 2017 (EAAI-17)
Call for Contributions: The 2017 NSG Challenge
February 5-6, 2017

San Francisco, California, USA (collocated with AAAI-17)

Sponsored by the Association for the Advancement of Artificial Intelligence

Sharing AI Robotics curricula is difficult – but tantalizingly so!

Despite and because of this difficulty, EAAI wants to support the development/sharing of compelling AI robotics curricula. The 2017 EAAI NSG¹ AI-Robotics challenge invites teams to create, prototype, and share a compelling, accessible, and adaptable AI robotics task of their own design.

In a sense, this is a meta-robotics challenge, in which you are invited to share a novel or adapted AI robotics challenge that maximizes both curricular worth and easy deployment. Entries will have the opportunity to be presented at EAAI (eai.stanford.edu).

Important Dates

- September 14, 2016: Author registration and electronic assignment submission deadline
- November 9, 2016: Author notification of acceptance or rejection
- November 28, 2016: Final assignment abstract and assignment revisions due
- February 5-6, 2016: EAAI-17

Invitation

Directly supporting EAAI's principal focus – adaptable, effective resources for AI education – the 2017 NSG challenge invites *creating an accessible curricular module that engages students in both AI and robotics*. In a sense, this is a meta-robotics challenge, in which you are invited to create an AI robotics task that maximizes both curricular value and ease of deployment.

There are no constraints on the hardware, software, or curricular content of the tasks submitted: *every* choice will confront tradeoffs relative to the judging criteria noted below. All target educational levels and all possible team compositions are invited: students, educators, researchers, everyone.

In keeping with EAAI's focus, this challenge especially targets *undergraduate-level* tasks and curricular goals in particular. NSG submissions targeting other audiences are welcome, too: they will be considered in their own category. Furthermore, in the spirit of supporting the undergraduate experience, we encourage submissions by undergraduate students and faculty, working together as a team of equal contributors.

Additional details are available at www.cs.hmc.edu/~dodds/nsgc17/.

Submitting

¹ Whereas DARPA has its “grand challenges,” ours may seem not-so-grand – but they're *at least* as challenging!

A submission to the NSG Challenge consists of two parts, a report and a presentation:

- a written report, describing the proposed task, including sections on
 - the "challenge" task itself, as well as the student audience it is meant for
 - the hardware and software required to tackle the challenge
 - the AI and programming skills the challenge elicits and reinforces
 - the experiences of the authors in trying out the challenge -- or in others' trials of it
- a presentation, made by one or more team members at EAAI
 - a 10-minute overview interlacing the challenge itself and its motivation, the materials and background needed, the AI content addressed, and the insights gained from the one or more trial runs
 - the 10-minute overview can (and ideally should) include videos that document at least one end-to-end execution of the challenge

These deliverables are deliberately open-ended: we welcome all ideas! Note that these are essentially curricular submissions – *not robotics systems per se*. This challenge is at heart pedagogical/curricular, not technological or algorithmic.

EAAI will archive all submissions for educators to adopt/adapt in the future.

Judging

There will be at least three judges who review all of the submissions. They will rate each of the proposed robot curricular tasks by asking the following questions. For each of these criteria, more would be better:

- How well-pitched is the learning curve for the intended audience of students?
- How well and how deeply is AI integrated into the students' contributions to the project?
- How accessible is this project for other educators and institutions to adopt or adapt?
- How open-ended, especially in terms of AI content and application, is the challenge?
- How compelling would this challenge be for a wide audience of the intended ages, that is, how little specialized background is needed, in terms of hardware/software/languages/libraries?
- How well does the submission incorporate software and tools widely used in the professional AI/robotics communities?
- How much value-added can students contribute to the task's starting scaffolding?
- How much sophistication and freedom, both in sensing and in processing sensor data, does the challenge make available for student exploration and investigation?

Challenge

Wait! These criteria are mutually contradictory. It's impossible to meet all of them!

Yes. Welcome to the challenge!