Call for Contributions

1. Inform the Chair: with the Title of your Contribution
2. Submission URL:
Please select Track Preference as **XAISG**
3. Note: *For 2022, all events will be held in a hybrid mode: on site or virtual choices (live, prerecorded videos, voiced presentation slides, and .pdf slides). We hope for better times allowing us to return to the traditional on site scientific events. However, we are ready to adapt any which way the conditions dictate.*

Special track

XAISG: Explainable AI in Societal Games

Chair
Prof. Dr. Atriya Sen, University of New Orleans, USA asen@uno.edu

along with
DIGITAL 2022: Advances on Societal Digital Transformation
https://www.iaria.org/conferences2022/DIGITAL22.html
November 13 - 17, 2022 - Valencia, Spain

A thread of recent AI (Artificial Intelligence) research has focused on understanding the progression of knowledge acquisition by deep reinforcement learning algorithms such as DeepMind's AlphaZero, in a post-hoc manner. Which concepts are learnt first and which later, and why? Can the learnt knowledge be meaningfully aligned with human conceptual insights? Indeed, are the learnt concepts human-understandable at all? The goal has been to explain individual algorithmic decisions in terms of this acquired conceptual knowledge. Yet, in most normative domains, decisions are not usually viewed in isolation, but as a sequence of steps to a goal. A sequence of decisions may be seen as embodying a strategy, and the development of a strategy (in the case of humans), or the selection of a particular strategy from many (in the case of machines) may be seen as requiring (computational) creativity.

We propose a special track to ruminate upon the goal of explaining a deep reinforcement learning-acquired strategy, i.e., the learnt solution to a sequential decision-making task - and discuss how this goal may shed light on the decision-making creativity that systems such as AlphaZero have been qualitatively credited with by humans. The scope of our special track will not be restricted to games such as those played by AlphaZero (Chess, Go, Shogi, etc.), but will be imminently relevant to a range of societal domains that may be modelled as a game between parties and requiring sequential decision-making, such as what has been called "nuclear chess", i.e., nuclear deterrence, and economic and trade strategies & policies.

Further, the ability to explain & interpret deep reinforcement learning-acquired political and economic strategies in terms of the conceptual understanding of a deep learning model trained on historical data - representing actual strategies from human history - may be invaluable in understanding the ways in which deep reinforcement learning strategies carry the threat of violating human ethical norms, and in building a path to ensuring that these systems comply with them.

Topics include, but are not limited to:

- Interpretable reinforcement learning (RL)
- RL game-playing; AlphaZero and its successors
- RL agent performance & human cognition
- AI & RL in "war-gaming" and nuclear deterrence applications

- AI & RL in economics, trade, policy, and other societal domains
- Ethical implications of RL agents in societal domains
- Philosophical implications of RL agents in societal domains
- RL for AI planning & decision making

Contribution Types
- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Important Datelines
Inform the Chair or Coordinator: As soon as you decide to contribute
      Submission: Oct 1, 2022
      Notification: Oct 17, 2022
      Registration: Oct 27, 2022
      Camera ready: Oct 27, 2022
Note: The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chair.

Paper Format
- See: http://www.iaria.org/format.html
- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
- Print proceedings will be available via Curran Associates, Inc.: http://www.proceedings.com/9769.html
- Articles will be archived in the free access ThinkMind Digital Library: http://www.thinkmind.org

Paper Submission
https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=DIGITAL+2022+Special
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Registration
- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

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