WORKSHOP SUMMARY

Title of Session:
RAW – The International Robust Artificial Intelligence Workshop

Name, Title and Affiliation of Chair:

The IDUN-Group in Cybernetics, NTNU, Norway

Information Technology and Electrical Engineering,

Department of Engineering Cybernetics

The Norwegian University of Science and Technology

O.S Bragstads plass 2D,

Elektroblokk D, 1 etage

Gløshaugen

Trondheim, Norway

Chaired and organized by group of researchers:

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Details of Session (including aim and scope):

Aim

Methods in AI for robotic control, mobile platforms, and cognitive cyber-physical systems are developing rapidly. They tackle the challenging task of modeling real-world systems and environments through data, using machine vision, reinforcement learning for control, probabilistic machine learning, among many others. Such data-driven approaches have led to many concerns regarding the robustness, stability, and overall safety of these systems.

While data-driven approaches based on learning algorithms have seen huge success in the last decade, when applied to cyber-physical systems such as manufacturing applications and healthcare robotics, the lack of safety guarantees causes trust issues. A central challenge is defining and implementing robustness for different applications and providing methods for analyzing and verifying models. This workshop investigates the diverse meaning of robust AI and gathers a wide array of approaches to the problem.

The RAW - workshop provides a forum for bringing together researchers from academia and industry to explore and present their findings in Robust Artificial Intelligence with theories, systems, technologies, and approaches for testing and validating them on challenging real-world, safety-critical applications.

Topics

Interesting research topics for the workshop and for papers include, but are not limited to:

- Cognitive models and architectures
- Explainable AI
- Knowledge-driven models
- Safe exploration
- Hybrid-models
- Reasoning-based methods
- Trustworthiness
- Understanding and controlling machine learning biases
- Adversarial attacks and defense

Review Procedure

The conference review committee has agreed upon the use of a double-blind process prior to accepting papers. Visit http://kes2021.kesinternational.org/prose.php to submit and track your paper using PROSE.

Papers are required in PDF format; however, each must be accompanied by the source text, either in Latex or MS Word.

Important Deadlines

• Paper submission deadline: (Extended) **9th May 2021**

• Notification of Acceptance: **20th May 2021**

• Camera ready: **28th May 2021**

Proceeding and Publishing Issues

Authors who submit and present their work will have their work published and indexed internationally by Elsevier's Procedia Computer Science (http://www.journals.elsevier.com/procedia - computer-science/).

Track Chairs
IDUN project group

Invited Speakers:

Name: Prof. Carmen Gervet
Affiliation: Department of Computer Science, Montpellier, France
Field: Algorithms, information science, modeling, linear programming, constraint programming, decision support systems, computer-aided decision making, interval analysis, combinatorial designs, uncertainty and decision making
Google scholar link: https://scholar.google.com/citations?user=IwvoRgEAAAAJ
Research gate link: https://www.researchgate.net/profile/Carmen-Gervet
Carmen Gervet is professor at the university of Montpellier, France, Computer science department, and head of the lab Espace-Dev (spatial observation, models and actionable science). Carmen does research in Algorithms, Information Science and constraint-based reasoning. The current projects she is working on are 1) environmental health and decision support, 2) multi-criteria renewable energy planning.

Name: Prof. Sebastien Gros
Affiliation: Department of Engineering Cybernetics, NTNU, Trondheim, Norway
Field: Safe reinforcement learning and data-driven mpc
Google scholar link: https://scholar.google.com/citations?user=38fYqeYAAAAJ&hl=en
Research gate link: https://www.researchgate.net/profile/Sebastien-Gros-2
Sebastian Gros is professor at the department of Engineering Cybernetics at the Norwegian university of science and technology NTNU, Norway. Sebastian's research focuses on Model Predictive and Optimal Control, Reinforcement Learning (RL), risk-based planning and control, and decision making with applications that include wind energy, smart grids and smart buildings, electric mobility, traffic control, autonomous driving, autonomous ships, aircraft control and which is highly connected to the industry, with partners such as DNV GL and Konsberg Marine.

Website URL of Call for Papers (if any):

https://sites.google.com/view/robustai/home

Email & Contact Details:

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