



PANEL #2

NICE
June 2023

ComputationWorld 2023 & DataSys 2023

Theme:

Awareness on AI-Tools in Education



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Themes covered in this panel

- Impact of AI-based tools on scientific content creation
- Opportunities of using AI in Education
- Different angles in AI adoption
- Using AI to generate Theses



CONTRIBUTORS

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Moderator

Assoc. Prof. Dr. Simone Silvestri, University of Kentucky, USA

Panelists

Prof. Dr. Hanen Ochi, EFREI Lab Research, France

Prof. Dr. Petre Dini, IARIA, USA/Europe

Prof. Dr. Robert Laurini, KSI Fellow and Professor Emeritus INSA Lyon, University of Lyon, France



Moderator Position

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- AI-assisted technologies are here to stay
- The impact on education is profound
 - Pros
 - Facilitating writing and dissemination
 - Solve previously unsolvable problems
 - Generating new ideas
 - ...
 - Cons
 - Unreliability
 - Authorship and contribution of Human-AI balance
 - Learning outcomes for students may be impacted
 - Deepfake science?
 - ...



Simone Silvestri



Moderator Position

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Specifically for scientific writing

- **Most publishers allow editing but not creation of content**
 - Where/how to draw the line between editing and creating
 - Is generating new ideas a sin?
 - And generating new content (e.g., sections of a paper?)
- **Skilled writers can benefit from AI-tools**
 - Will students learn how to write?
 - Will we be able to discern good students from students that cheat with AI?
- **Authors may or may not declare AI was used**
 - What should Editors and Reviewers do when AI is used?
 - Will we see higher similarity scores?
 - Different evaluations by different systems (e.g., EDAS, manuscript central, HotCRP, etc.)
- **AI can generate nicely sound papers that are completely wrong**
 - Will our reviewing system be able to detect this?
 - How many papers do we review with limited knowledge on the topic?
 - Will we just trust what the AI is saying?



Simone Silvestri



Panelist Position

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- Awareness Education has to be approached
 - (i) **Introduction to AI Tools in Education:**
Intelligent Tutoring Systems (ITS), Virtual Assistants, Adaptive Learning Platforms, Automated Essay Graders, Content Recommendation Systems, Plagiarism Detection Tools, Data Analytics and Predictive Models
 - (ii) **Benefits of AI Integration in Education:**
Personalized Learning / Enhanced Student Engagement / Intelligent Tutoring and Support / Efficient Administrative Tasks / Data-Driven Insights:
 - (iii) **Challenges of AI Integration in Education:**
Equity and Access / Privacy and Data Security / Ethical Considerations



Dr. Hanen Ochi



Panelist Position

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- Awareness Education has to be approached

(iv) Personalized learning with AI

the use of AI tools and algorithms to tailor educational experiences to the specific needs, preferences, and abilities of individual students.

- Adaptive Learning
- Customized Learning Paths
- Individualized Feedback and Support
- Differentiated Instruction



Dr. Hanen Ochi



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AI-awareness Education must be approached

(i) At different levels

Society level, Corporate Level, Community level, and Citizen Level.
At each level: age, skills, disabilities are definite **criteria**.

(ii) At different roles

Academic Institution (Ensuring Data Privacy, Accessibility, AI-abuse control)

Training Corporations (Teacher training, Focus on content covering Deskillling and Digital Anxiety)

Users/Coaches (Hybrid Human/AI-Based, Feedback: Assist <-> Decide, Learning analytics, Pitfall analysis)

Users/Learners (Scrutinize AI-based tools, Test&Trust vs. Trust&Test)

Society (Aloofness avoidance, Unintended effects [:(but known apriori])

AI-based Tools Producers (Ethics, Unbiased, Fairness, Transparency, Explainable output)

(iii) Educational Case Studies (*Academic*)

A case study: Honesty and Legal aspects in using AI-based produced work or AI-based assist work in education institutions

To consider: ownership, references, copyrights, unintended plagiarisms, abusive-AI-use detection,



Petre Dini
IARIA



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(iv) Awareness Education with respect to **Deskilling** (*Industry, Services, Citizens*)

- With everybody I am discussing on, frequently changing responsibilities, due to quick evolving technologies, is a major factor.
- Along with it, put AI-based relieve (some say), or taking-over (others say), deskilling is even more evident (and dangerous).
 - Deskilling also infuses anxiety because we are not able to act and perform as expected and how we were accustomed. This also goes with age.



Petre Dini
IARIA

(v) **Digital Transformation + AI-tools: Complex cocktail**

Digital Complexity: (personal experience): I had hard time to adapt (just a little effort) to my smart phone: a too complex menu, a small screen, near-by keys, fear of doing wrong, not knowing simple facilities, disturbing 'messages', too many unwanted messages, complication to block, delete, unsubscribe, frustration not successfully blocking some messages, etc.)

AI-based tools: Act upon an educated trust and stay active

Act with precaution, until using AI-based tools with satisfactory output.

Generative-AI offers advices based on existing information (incomplete, not validated, obsolete, biased, etc.);

Then, do not expect an output to be fully trusted; diligent acceptance filters are advised.



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- **Question: How to tackle AI-generated fake theses?**

A fake thesis is a university thesis, not written by the alleged author (ghostwriter), but by somebody else; linked to fraud and plagiarism

- **Objective of a good thesis**

A university thesis should present novel knowledge chunks together with their proof (Master or doctoral dissertations)

- OK, if AI can assist research, f.i. state of the art
- KO, if the whole or important sections are fully AI-generated

- **Origin of this intervention**

I am volunteer in a non-for-profit association helping foreign students in Lyon in charge of scientific dissertations

I wrote two books regarding good practices for PhD dissertations

I gave PhD students some courses regarding dissertation writing



Dr. Robert
Laurini



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▪ Indicators of suspicion of fraud

Written in good English whereas usually the student's style is low

Few references

No novel ideas and argumentation

AI: a talkative parrot but with a prodigious memory!

The writing style is different

The used arguments are verbose and looked very common-sense

No fresh data are used for proof construction

▪ Possible outcomes

Fully AI-generated dissertations: not acceptable.

Locally AI-assisted dissertations: why not as a first draft!



Dr. Robert
Laurini



Output

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▪ To consider

- What could be the consequences of using generative-AI for doctoral and master dissertations?
- Will it be a new kind of plagiarisms?
- What could be the characteristics of software tools to detect sections generated by IA?
- In some universities, there are specific codes of conduct for researchers; how to integrate those issues?
- How artificial intelligence can enhance various aspects of the education system, including teaching, learning, assessment, and administrative tasks?
- How AI tools can support personalized learning experiences for students, including adaptive learning platforms, intelligent tutoring systems?
- How AI tools can compare student submissions with a vast database of sources to detect potential instances of plagiarism? This will maintain academic integrity and ensure originality in students' work.
- How educators can harness the potential of AI tools while ensuring that the learning experience remains equitable, inclusive, and ethical?
- It is important to note that while AI tools have the potential to greatly enhance education, they should be used as complementary resources rather than replacements for human teachers. The expertise and guidance of teachers remain crucial for effective learning and the holistic development of students!



OPEN DISCUSSION

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Stage for the Audience