



PANEL #4

VALENCIA
November 2023

SocSys 2023 & SoftNet 2023

Theme

Making Profit from Generative-AI in Education and Health Systems



CONTRIBUTORS

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November 2023

Moderator

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Panelists

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Prof. Dr. Isaac Caicedo-Castro, Universidad de Córdoba, Colombia

Prof. Dr. Zhijie Xu, University of Huddersfield, United Kingdom

Prof. Dr. Gerhard Hube, THWS Würzburg-Schweinfurt, Germany

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



Panel Introduction

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- Generative AI disruptively entered the scene
 - The linguistic approach makes it **universally applicable**
 - Applicable to **different media**; it seems that **dialogs** are the basis of quite different creative approaches
 - Applicable to **create**, to **help creating**, or to **check** resources
 - Since OpenAI's applications it become a tool that is used in everyday tasks - sometimes too carelessly?
 - LLMs' lack of understanding leads to **varying quality of results**
- ⇒ There are **benefits and risks** that need to be judged in different settings: application domains, communication media, applications, ...



Hans-Werner Sehring
NORDAKADEMIE gAG



Panel Introduction

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Fuzz...

Temporary policy: Generative AI (e.g., ChatGPT) is banned
Asked 11 months ago Modified today Viewed 1.1m times

Locked. Comments on this question have been disabled, but it is still accepting new answers and actions. [Learn more.](#)

Note: This post has been locked to prevent comments because people using them for protracted debate and discussion (we've deleted over 300 on this post alone, not even including its answers).

nt lock is not meant to suppress discussion or pr
their opinions. You are (as always) encouraged to
r agreement/disagreement. If you want to discus
er related changes, please [Ask a New Question](#) a

n remains **featured** because that is still the best
announce this policy site-wide.

**All use of generative AI (e.g., [ChatGPT](#)¹ and
banned when posting content on Stack Overflow.**

**This includes "asking" the question to an AI generator then copy-
pasting its output *as well as* using an AI generator to "reword" your
answers.**

**Please see the Help Center article: [Why can't I use Artificial Intelligence
tools to generate answers?](#)**

This is a temporary policy intended to slow down the influx of answers and other content
created with ChatGPT and other generative AI technologies, typically using Large Language



AI Will Not Replace You, People Using AI Will



Christopher Losee

Making robots build the future, democratizing machine vision

Veröffentlicht: 1. Feb. 2023

Generative AI In The Office: To Ban Or Not Ban?

Johan Moreno Contributor

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... or
skepticism?



Chair position

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Education – improved access to learning material through generative AI

- Domain knowledge is shared to build a **common body of knowledge**
- Teachers profit from good **learning material created by colleagues**
- Teachers are relieved from **answering simple questions**
- Students can **search** for content in natural language, get synthesized **answers** instead of document collections
- Students **actively** work with information sources instead of just consuming; at least learn to **ask** the right questions
- **Idea:** Use for simulations instead of real-world experiments?

Recent example in Germany: ChatGPT integration into Moodle; prototypical use in a selected case
<https://hochschulforumdigitalisierung.de/blog/proof-of-concept-zur-anbindung-von-moodle-an-chatgpt/> (in German)



Hans-Werner Sehring
NORDAKADEMIE gAG



Chair position

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Risks of generative AI use in education

- Synthesis of **incorrect answers** because of lack of subject matter knowledge (of LLMs)
- Advantages of students from ability to use AI rather than from knowledge of the subject
- **Lack of control** over the content that is presented to students
- **Data provenance**: sources of learning material are not equally valuable and trustworthy; authorship and acceptance need to be taken into account
- Knowledge that does not “rank well” might be considered less and, ultimately, get lost



Hans-Werner Sehring
NORDAKADEMIE gAG



Panelist position

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- **Generative AI in education: POSITIVE & OPTIMISTIC VIEW**
 - Original reaction: explosion of critiques, concerns
 - Not a replacement of traditional education, but an additional tool
- **Not undermining the position of educators**
 - Teachers and Learning will not become obsolete!
- **Ban of generative AI – clearly not a solution**
- **Various concerns/limitations**
 - Hallucinations, intellectual property issues, privacy, bias etc.
 - Challenge to existing assessment principles
 - They are not un-important! They just need to be solved - by humans



Simona Vasilache
University of
Tsukuba, Japan



Panelist position

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- **Personalized learning**
 - Leverage technology to learn at own pace
- **Student engagement is crucial in the learning process**
- **AI as “study pal”**
 - Participate in classes alongside student
 - Synthesize/filter information
 - Answer questions, explain
- **Example: “Khanmigo”** (AI tutor, GPT-4 powered; Khan Academy)
- **Ultimate effect: reducing education inequality**



Simona Vasilache
University of
Tsukuba, Japan



Panelist position

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- In the education context

1. AI-generated content for MOOC and CMS (e.g., textbooks, quizzes, and study guides, tailored to individual students' learning styles and progress)
2. Training and consultation
3. Virtual assistants and educational chatBots
4. Subscription models (e.g., freemium)
5. Licensing and partnership
6. White label solutions (no in-house development issues)

- In the health system context

1. Drugs discovery
2. Diagnostic service
3. Personalized treatment plans
4. Telemedicine solutions - great for space exploration -
5. Biomarker discovery: accelerating clinical trials (discovering hidden patterns that human researchers might miss)



Isaac Caicedo-
Castro



Panelist position

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- Making profit from Generative-AI in education and health systems, a snow-white or a necessary evil?
 - Who: big tech and blue-chip firms, high tech start-ups, universities and research institutes, small studios/firms, freelancers and hobbyists (?)
 - What: adaptive learning apps and platforms, virtual healthcare assistants, clinical decision support systems
 - When: accelerated pace from 2018 onwards, prevalence and ubiquitous trend
 - Where: demographical and geographical divides
 - How: eco systems, loyalty clubs, open source vs. closed source
- Opportunities: efficiency and productivity, personalisation, cost reduction (?)
- Challenges: digital governance, cloud hegemony, cognitive depletion, creativity poverty, ...



Zhijie Xu
University of
Huddersfield



Panelist position

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- Discussion and situation at German universities of applied sciences to ChatGPT&Co.
 - ChatGPT “crashing” into educational system in Nov. 2022
 - Heated discussions and uncertainty at universities
 - Different reactions and measures to react to ChatGPT&Co.
 - Using ChatGPT&Co. in daily lectures and exams



Prof. Dr. Gerhard Hube

Technical University of
Applied Sciences Würzburg-
Schweinfurt
Faculty of Economics and
Business Administration



Panelist position

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- **Useful, still, caution is the Key**
- **Our Society changes, our behavior should, too!**
- **Personalized services:**
 - Personalized re- skilling
 - Personalized guideline for home self-healthcare
 - Personalized training
 - Personalized student advice
- **Educational**
 - Homework (extending class-work)
 - Personalized guideline for home self-healthcare
 - Personalized training
 - Personalized student advice
 - Exercising tools (skills development)



Petre Dini
IARIA



Panelist position

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■ Hopes on Human and AI-based critical decision systems

■ Assisting: Decision paradigm change

- AI and the Human brain need to be used in conjunction; one is not to replace the other
- *bias* and *trade-offs* must be cleared by humans.
- Human + AI-based decisions need *personalized H-AI context-based training*.
The feedback loop must be updated based in *success-index* of cooperation
(see Intelligent Tutorial Systems).
- *Revisit*: Replace - Assist - Advice | Feedback-by-request, Suggestions-by-predictions
- *Validation*: Validate synchronization duration | Validate use case scenarios
- *Flow*: AI (Personalized-AI) & in-Context (Human skills) -->> Assisted decisions



Petre Dini
IARIA

■ Personalized AI for critical system resilience

- *Metaverse* is training the AI-based tools with virtual models;
- *Simulations, Digital Twins* accelerate the system deployments, but no real-world environments.
- Latency, reliability, synchronization (for collaborative work)

- *Digital-twin* approach can be used for a dry-training AI-Humans for specific tasks
- *Decision prediction and feedback as options*.
- *Updated training and real-time impact feedback*.



Discussion #1

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Simona: just a next step, overcome it; banning not a solution; various problems, need to be solved
differentiated instruction

Isaac: have content generated for other tools (e.g., CMSs); his son studies medicine and predicts that internists will be replaced by gen. AI; drug development; U is doing experiments to skip experimentation phase

Zhijie: gen AI will teach us about how knowledge representation works; why should gen AI not be used? we can review information and remove unwanted sources; if we teach students the old way, their knowledge might become irrelevant

Gerhard: heated discussion in Germany, no regulations still

Petre: will not replace experts, but assist them; ChatGPT does not produce something that didn't exist before; students lose the ability to summarize; when you do not experiment, you will not learn from failure

Audience 1: (a) in medical applications, there is more than ChatGPT; can save risky experiments (b) in Columbia it is already used to a fair degree

Zhijie: works with people from health sector; LLM used in China a lot, e.g., for diagnosis with (first) noisy data; gen. AI can describe findings; the way we teach children has been established for hundreds of years, but perhaps it can be questioned

Audience 2 (Stephan): learners' initiative is important; availability of digital library did not lead to researchers reading more;

Audience 3 (Steve Chan): profit is created in the long tail; personalization/tailored searches will help, e.g., insurance companies to reward you, to localize to, e.g., national regulations; Isaac: yes, recommendations are always about the same

Isaac: technology has become very accessible



Discussion #2

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Petre: teachers are educated, but administration decides; question: what does this mean for AI? Steve Chan: at least in university, staff came “from the racks” (dean was a professor, etc.); MIT has student council who have a life-long account

3 perspectives: the public, government, professional services vs. open source; Petre: this is valid for every domain

Audience 1: universities provide you with different connections (networks) that boost your career, not just your knowledge

Malcolm, replying to Stephan: how about access to learning materials, what about curiosity? Stephan: motivation is most important

Matthias: some students have maybe already given up to compete with gen. AI; has a student project where students should become creativity; turns out that they did not; but gen AI came up with good ideas; Steve: there are two professors in Spain who work on metamorphic building blocks;

STUDENTS COMPETITIVE OR NOT? Matthias: students might be no longer interested in well established knowledge

Malcolm: human expertise cannot be replaced

Petre: themes shift; e.g., IARIA conferences shifted from networks etc. to information processing etc.; now a shift to AI

Isaac: if we find a way to train models to be come more creative, perhaps then the situation improves

Simona: these all are short-term effects; in the long term, students will be creative, motivated, etc.

Audience 4: we should embrace these things; they are not going away; but we need to step back and review the results

Final statements:

Petre: it is important to stay informed and critical

Zhijie: stays pessimistic with the background of a classic educator; solid education is still needed; initiative is a problem

Isaac: need an AI to check things