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Sibiu Innovation Days

24-25 October, Sibiu - RO



Artificial Intelligence: Equity, Ethics, and Human-AI Collaboration

Pierre-Alexandre FAVIER

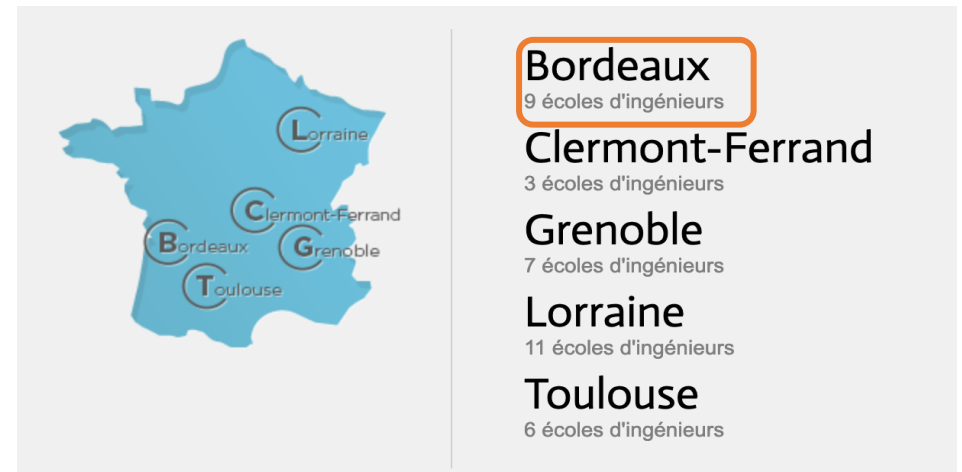
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GRUPE
INP



- 5 sites
- More than 25 000 students
- 1 French engineer over 6

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First French region for **Digital Health**
First European region for **Aerospatial Defence Industry**



ENSC - cognitive engineering

ENSEGID – Environment, georesources, water resources

ENSEIRB-MATMECA - Electronics, computers, telecom,
maths, mechanics

ENSMAC - Physics, chemistry and biology

ENSPIMA - Industrial and aeronautical maintenance

ENSTBB – biotechnologies, protein production



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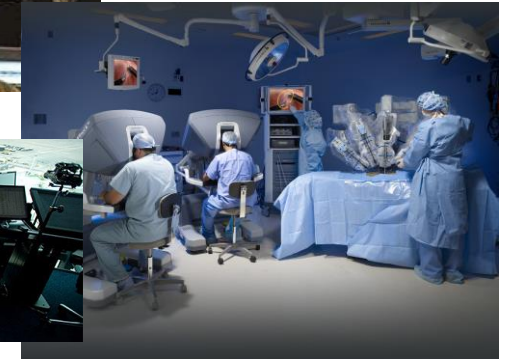
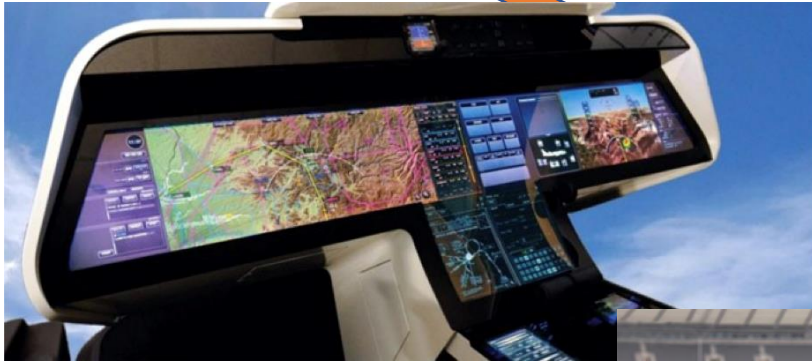
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Applied cognitive sciences

Individual cognition
(natural or hybrid)



Distributed cognition

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Our activities: human factor + technologies

Simplify the technologies

User eXperience: How to make humans more efficient in action?



Contextualize the complexity

Knowledge eXchange: How to increase group cohesion in the situation?



Human enhancement

Hybridity eXtension: How to anticipate the human-system symbiosis?



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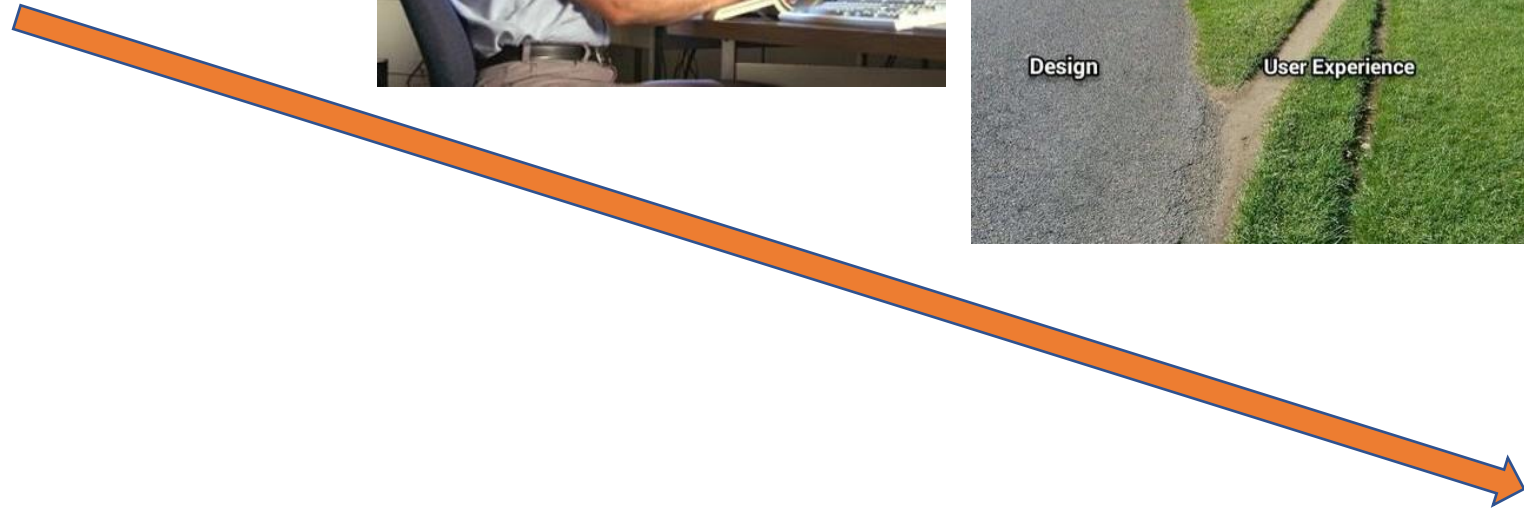
70's: HCI, Human-Computer Interfaces



90's: HIS, Human-Systems Interactions



10's: UX, User Experience

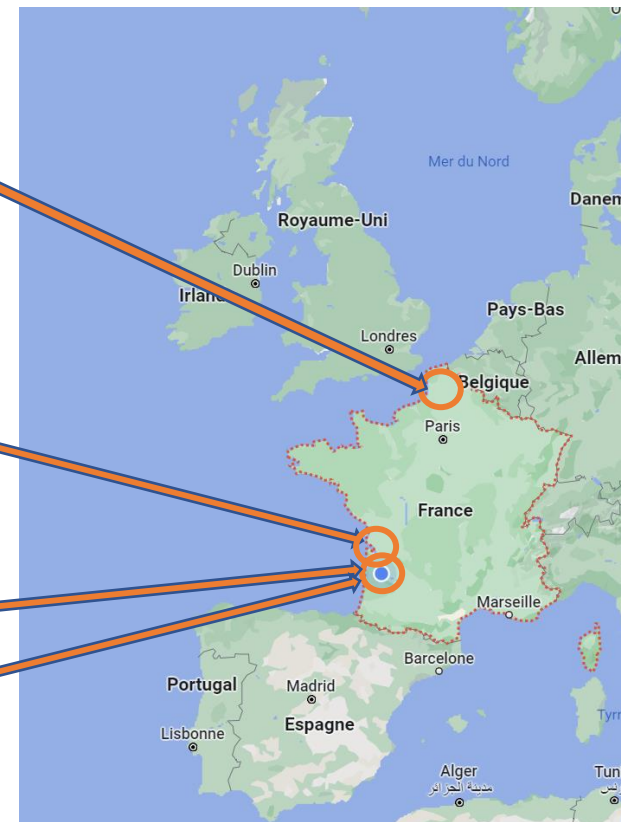


20's: Cognitive hybridity

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MOCAP cam

Camera

MOCAP gloves

Security cap

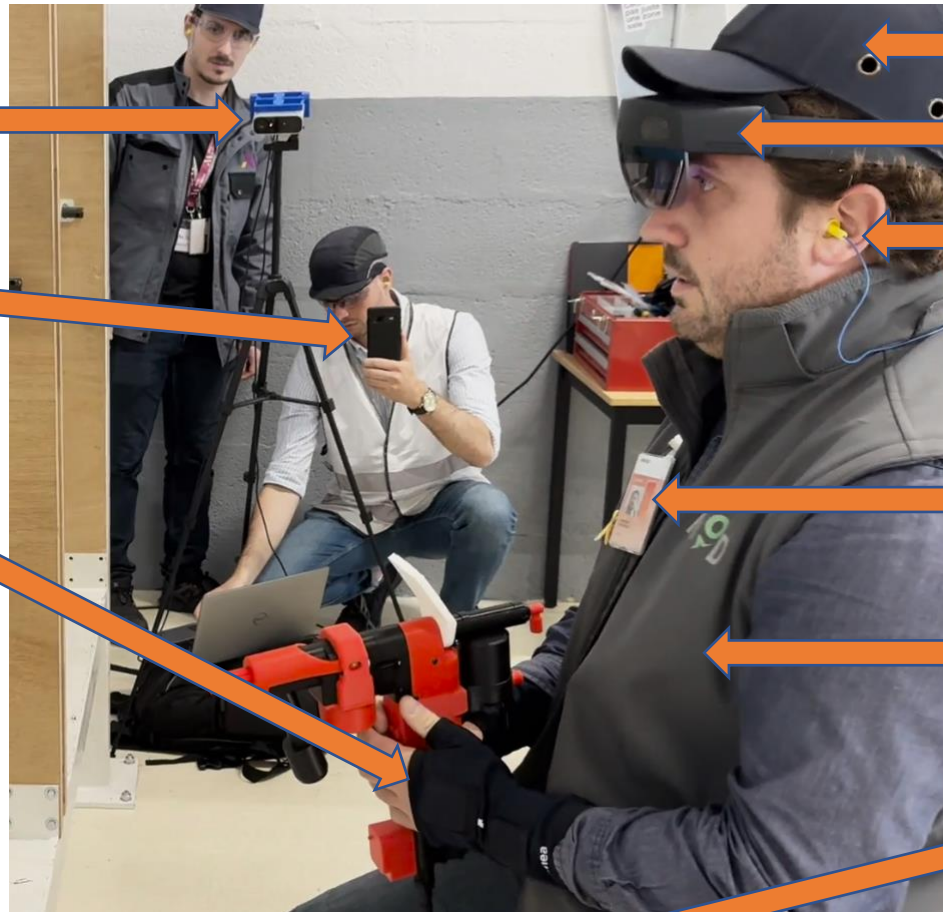
HMD

Ear protections

Access badge

Jacket

Security shoes



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Are we really helping the worker?
Are we really improving the overall performance?

- « techno-push » vs « user-centered »
- Raw performance vs hybrid performance
- Automation vs involvement and satisfaction
- time lost vs necessary break
- ...

The user is not always lucid about his own interest.

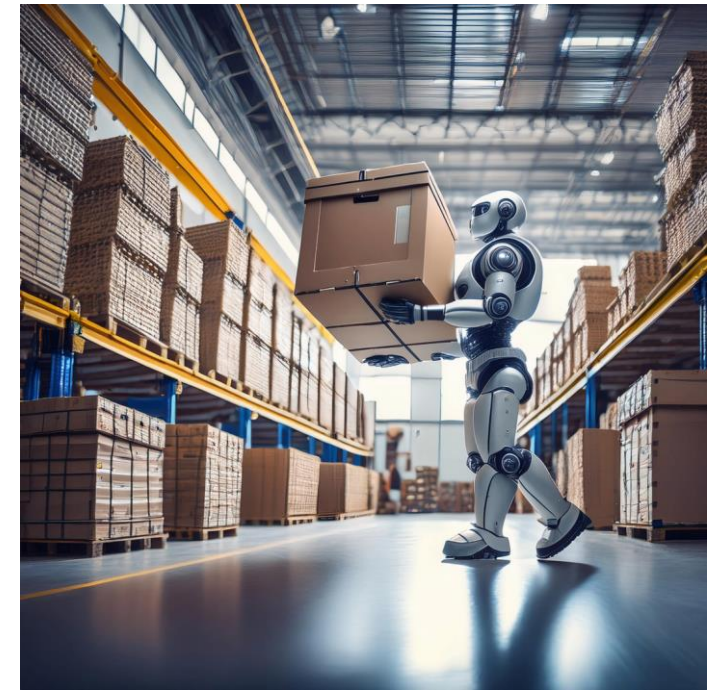
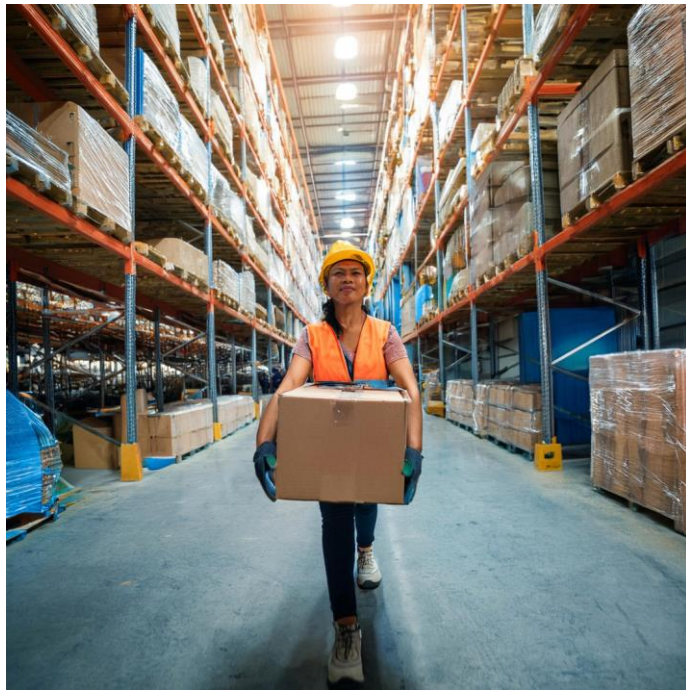
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Why use assistive and augmentative technologies?



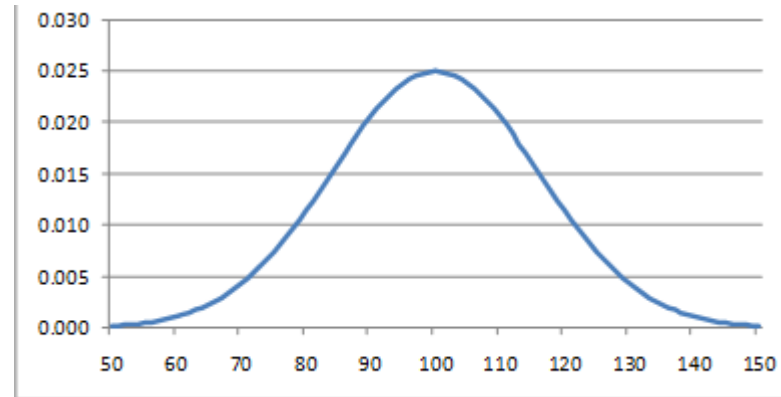
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What is a normal performance?



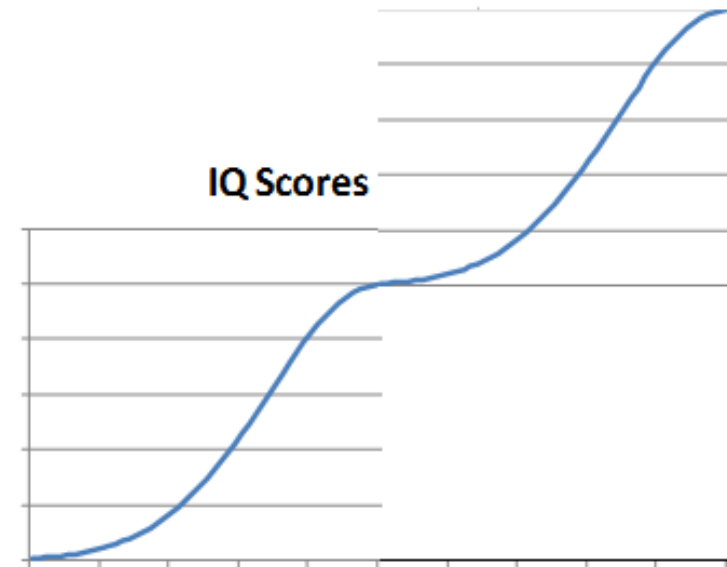
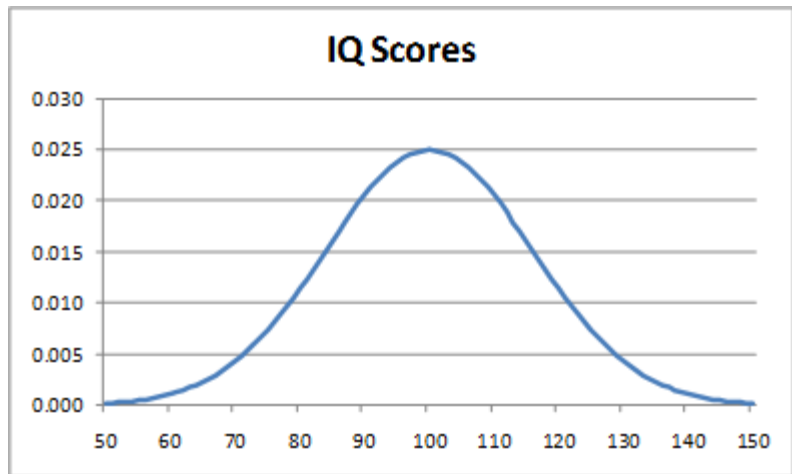
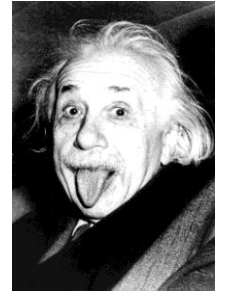
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What is normal intelligence?



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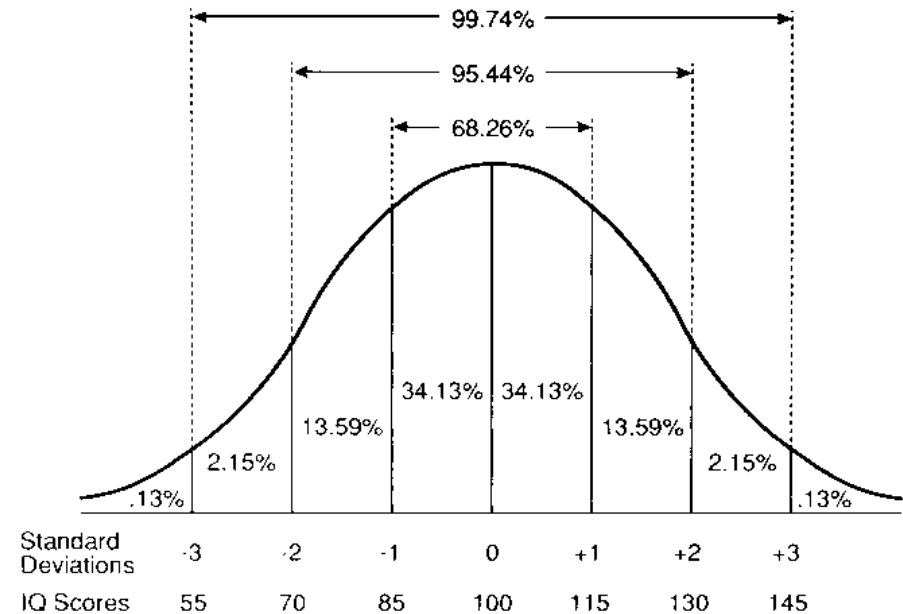


Striving towards normality to build a human/human interface.

AIs ranked by IQ

AI	IQ Score	Questions right (out of 35 per test)	Chance it beats random guessing
Claude-3	101	18.5	99.999999%+
ChatGPT-4	85	13	99.9986%
Claude-2	82	12	99.9911%
Bing Copilot	79	11	99.9314%
Gemini (normal)	77.5	10.5	99.8212%
Gemini Advanced	76	10	99.5894%
Grok	68.5	7.5	87.9402%
Llama-2 (Meta)	67	7	80.3278%
Claude-1	64	6	56.3155%
ChatGPT-3.5	64	6	56.3155%
Grok Fun	64	6	56.3155%
Random Guesser	63.5	5.8333	50%

Figure 1
The Normal Distribution of IQ Scores



Scanné de : "SENSE AND NONSENSE ABOUT IQ"
Charles LOCURTO - Ed. Praeger (NY) 1991 - Page 5

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Is the goal of AI always to increase intelligence?



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The hybrid performance lie.



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Building the systems of the future means rebuilding humanity.



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THANKS ! MERCI !
MULȚUMESC !

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