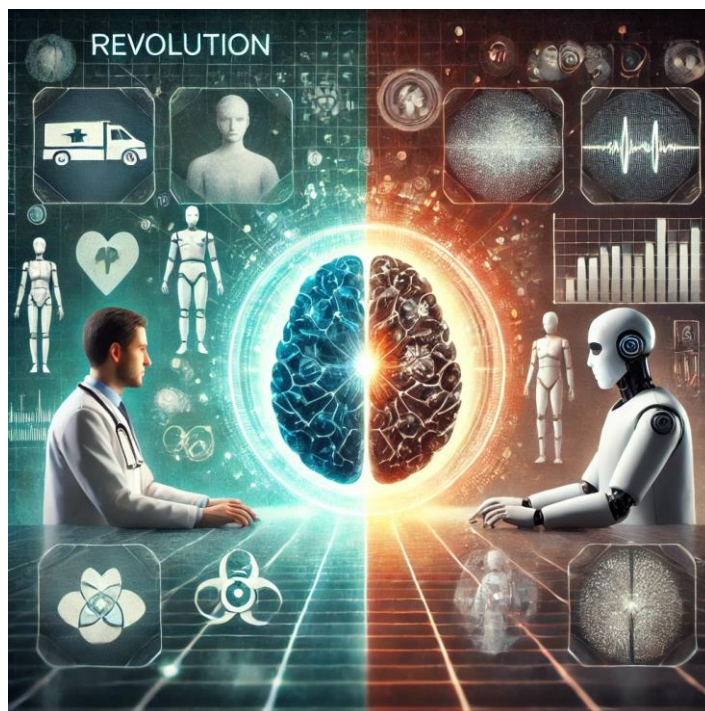




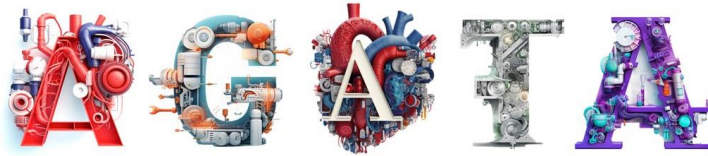
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



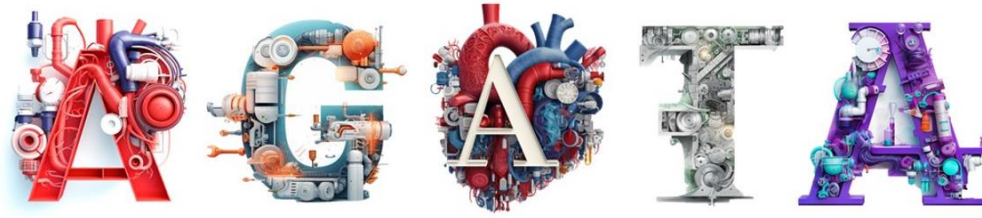
Applicazioni cliniche dell'IA: rivoluzione o rischio

Federico Semeraro
Azienda USL di Bologna

Conflict of Interest



ILCOR BLS Task Force Emeritus Member
Chair-Elect European Resuscitation Council
IRC Foundation Member
AGATA Team
Sci-Fi, Social Media, Tech & AI addicted



<https://agatateam.blog>





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Io, Robot





Prompt ChatGPT4o



Un "prompt" è una parola o una frase che serve come stimolo per avviare un'azione o una risposta. Nel contesto dell'intelligenza artificiale e del machine learning, come con i modelli di linguaggio di OpenAI, un prompt è il testo che un utente inserisce per ottenere una risposta dal modello.

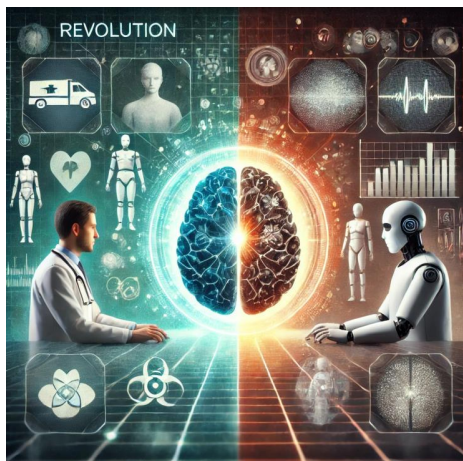
Ad esempio, quando chiedi "Cos'è un prompt?" stai fornendo un prompt al modello (me), e io rispondo in base a quel testo. In altre parole, il prompt è l'input che guida il contenuto della risposta generata dall'IA.

Fuori dal contesto dell'IA, il termine "prompt" può riferirsi a qualsiasi cosa che incoraggi o stimoli un'azione. Ad esempio, in scrittura creativa, un prompt può essere una frase o una scena che ispira un autore a scrivere una storia.



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Prompt ChatGPT4o



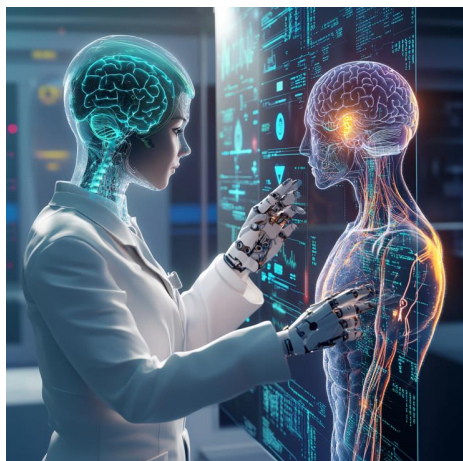
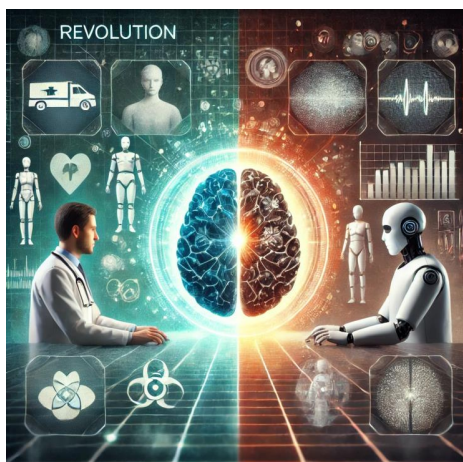
I need to prepare a presentation titled "Clinical Applications of AI: Revolution or Risk" for a conference in the Emilia Romagna region titled "Improving Diagnosis for Patient Safety." The full title is "Improving Diagnostic Care: The New Frontier in Patient Safety," for the World Patient Safety Day on September 17, 2024.

I need a relevant and evocative image for the first slide.



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Prompt Inglese



Create an evocative image that symbolizes the dual nature of AI in healthcare, highlighting both its revolutionary potential and the associated risks. The image should be split into two halves: **Left Side (Revolution):** Depict a healthcare professional, such as a doctor or nurse, interacting with advanced AI technology. The professional could be looking at a digital holographic display showing diagnostic data, AI-generated health insights, or a digital brain overlay. This side should feel futuristic and optimistic, with bright colors and a sense of innovation, symbolizing the potential of AI to enhance patient care and improve diagnostic accuracy. **Right Side (Risk):** Contrast the left side with a depiction of potential risks associated with AI in healthcare. Show a robotic hand hovering over patient data with an air of caution and uncertainty. The background could have a slightly darker tone, representing concerns about data privacy, ethical issues, or the fear of over-reliance on technology. This side should evoke a sense of contemplation and caution. **Central Element (Patient Safety):** In the middle, include a subtle but clear representation of a patient under care, with digital elements like data streams or a digital heart rate monitor overlay, emphasizing the importance of patient safety and care in the context of AI advancements. This central element should unify both sides, showing that while AI can revolutionize healthcare, it must always prioritize patient well-being. **Visual Style:** The image should be modern and professional, with a balance of light and shadow to convey both optimism and caution. Use blue, green, and white for the revolutionary side, and shades of gray and red for the risk side, to visually separate the two themes.

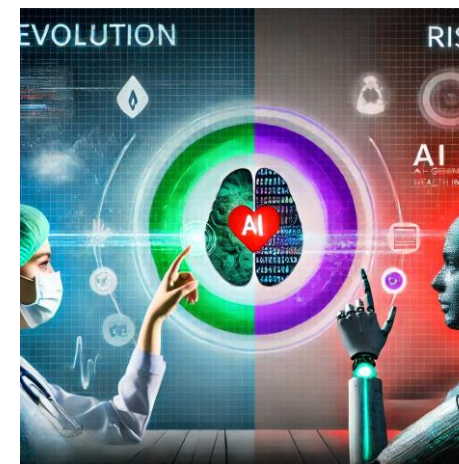
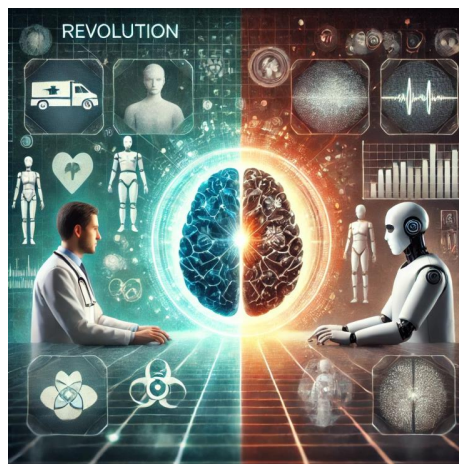


SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

DALL-E vs Midjourney



DALL-E 3





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Prompt Italiano



Crea un'immagine evocativa che simboleggi la duplice natura dell'IA nella sanità, evidenziando sia il suo potenziale rivoluzionario che i rischi associati. L'immagine dovrebbe essere divisa in due metà:

Lato sinistro (Rivoluzione): Rappresenta un professionista sanitario, come un medico o un'infermiera, che interagisce con una tecnologia avanzata di IA. Il professionista potrebbe guardare un display olografico digitale che mostra dati diagnostici, intuizioni sanitarie generate dall'IA o una sovrapposizione di un cervello digitale. Questo lato dovrebbe avere un'atmosfera futuristica e ottimistica, con colori vivaci e un senso di innovazione, simboleggiando il potenziale dell'IA per migliorare l'assistenza ai pazienti e aumentare la precisione diagnostica.

Lato destro (Rischio): Contrasta il lato sinistro con una rappresentazione dei potenziali rischi associati all'IA nella sanità. Mostra una mano robotica che si libra sopra i dati dei pazienti con un'aria di cautela e incertezza. Lo sfondo potrebbe avere una tonalità leggermente più scura, rappresentando le preoccupazioni sulla privacy dei dati, le questioni etiche o il timore di un'eccessiva dipendenza dalla tecnologia. Questo lato dovrebbe evocare un senso di riflessione e cautela.

Elemento centrale (Sicurezza del paziente): Al centro, includi una rappresentazione sottile ma chiara di un paziente sotto cura, con elementi digitali come flussi di dati o una sovrapposizione di un monitor digitale del battito cardiaco, enfatizzando l'importanza della sicurezza e della cura del paziente nel contesto dei progressi dell'IA. Questo elemento centrale dovrebbe unificare entrambi i lati, mostrando che, sebbene l'IA possa rivoluzionare la sanità, deve sempre dare priorità al benessere del paziente.

Stile visivo: L'immagine dovrebbe essere moderna e professionale, con un equilibrio di luci e ombre per trasmettere sia ottimismo che cautela. Usa blu, verde e bianco per il lato rivoluzionario, e sfumature di grigio e rosso per il lato del rischio, per separare visivamente i due temi.



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

DALL-E vs Midjourney





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

True or False ?





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI Index Report 2024



 Artificial Intelligence
Index Report 2024

Table of Contents

Report Highlights		14
Chapter 1	Research and Development	27
Chapter 2	Technical Performance	73
Chapter 3	Responsible AI	159
Chapter 4	Economy	213
Chapter 5	Science and Medicine	296
Chapter 6	Education	325
Chapter 7	Policy and Governance	366
Chapter 8	Diversity	411
Chapter 9	Public Opinion	435
Appendix		458

[ACCESS THE PUBLIC DATA](#)



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI Index Report 2024



AI Index and Stanford HAI

The AI Index is an independent initiative at the Stanford Institute for Human-Centered Artificial Intelligence (HAI).



Artificial
Intelligence
Index



Stanford University
Human-Centered
Artificial Intelligence

The AI Index was conceived within the One Hundred Year Study on Artificial Intelligence (AI100).

The AI Index welcomes feedback and new ideas for next year. Contact us at AI-Index-Report@stanford.edu.

The AI Index acknowledges that while authored by a team of human researchers, its writing process was aided by AI tools. Specifically, the authors used ChatGPT and Claude to help tighten and copy edit initial drafts.

The workflow involved authors writing the original copy, then utilizing AI tools as part of the editing process.



Supporting Partners



Analytics and Research Partners





Top 10 Takeaways



1. AI beats humans on some tasks, but not on all. AI has surpassed human performance on several benchmarks, including some in image classification, visual reasoning, and English understanding. Yet it trails behind on more complex tasks like competition-level mathematics, visual commonsense reasoning and planning.

2. Industry continues to dominate frontier AI research. In 2023, industry produced 51 notable machine learning models, while academia contributed only 15. There were also 21 notable models resulting from industry-academia collaborations in 2023, a new high.

3. Frontier models get way more expensive. According to AI Index estimates, the training costs of state-of-the-art AI models have reached unprecedented levels. For example, OpenAI's GPT-4 used an estimated \$78 million worth of compute to train, while Google's Gemini Ultra cost \$191 million for compute.

4. The United States leads China, the EU, and the U.K. as the leading source of top AI models. In 2023, 61 notable AI models originated from U.S.-based institutions, far outpacing the European Union's 21 and China's 15.

5. Robust and standardized evaluations for LLM responsibility are seriously lacking.

New research from the AI Index reveals a significant lack of standardization in responsible AI reporting. Leading developers, including OpenAI, Google, and Anthropic, primarily test their models against different responsible AI benchmarks. This practice complicates efforts to systematically compare the risks and limitations of top AI models.



Top 10 Takeaways



6. Generative AI investment skyrockets. Despite a decline in overall AI private investment last year, funding for generative AI surged, nearly octupling from 2022 to reach \$25.2 billion. Major players in the generative AI space, including OpenAI, Anthropic, Hugging Face, and Inflection, reported substantial fundraising rounds.

7. The data is in: AI makes workers more productive and leads to higher quality work. In 2023, several studies assessed AI's impact on labor, suggesting that AI enables workers to complete tasks more quickly and to improve the quality of their output. These studies also demonstrated AI's potential to bridge the skill gap between low- and high-skilled workers. Still, other studies caution that using AI without proper oversight can lead to diminished performance.

8. Scientific progress accelerates even further, thanks to AI. In 2022, AI began to advance scientific discovery. 2023, however, saw the launch of even more significant science-related AI applications—from AlphaDev, which makes algorithmic sorting more efficient, to GNoME, which facilitates the process of materials discovery.

9. The number of AI regulations in the United States sharply increases. The number of AI-related regulations in the U.S. has risen significantly in the past year and over the last five years. In 2023, there were 25 AI-related regulations, up from just one in 2016. Last year alone, the total number of AI-related regulations grew by 56.3%.

10. People across the globe are more cognizant of AI's potential impact—and more nervous. A survey from Ipsos shows that, over the last year, the proportion of those who think AI will dramatically affect their lives in the next three to five years has increased from 60% to 66%. Moreover, 52% express nervousness toward AI products and services, marking a 13 percentage point rise from 2022. In America, Pew data suggests that 52% of Americans report feeling more concerned than excited about AI, rising from 37% in 2022.



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



European Parliament

2019-2024



TEXTS ADOPTED

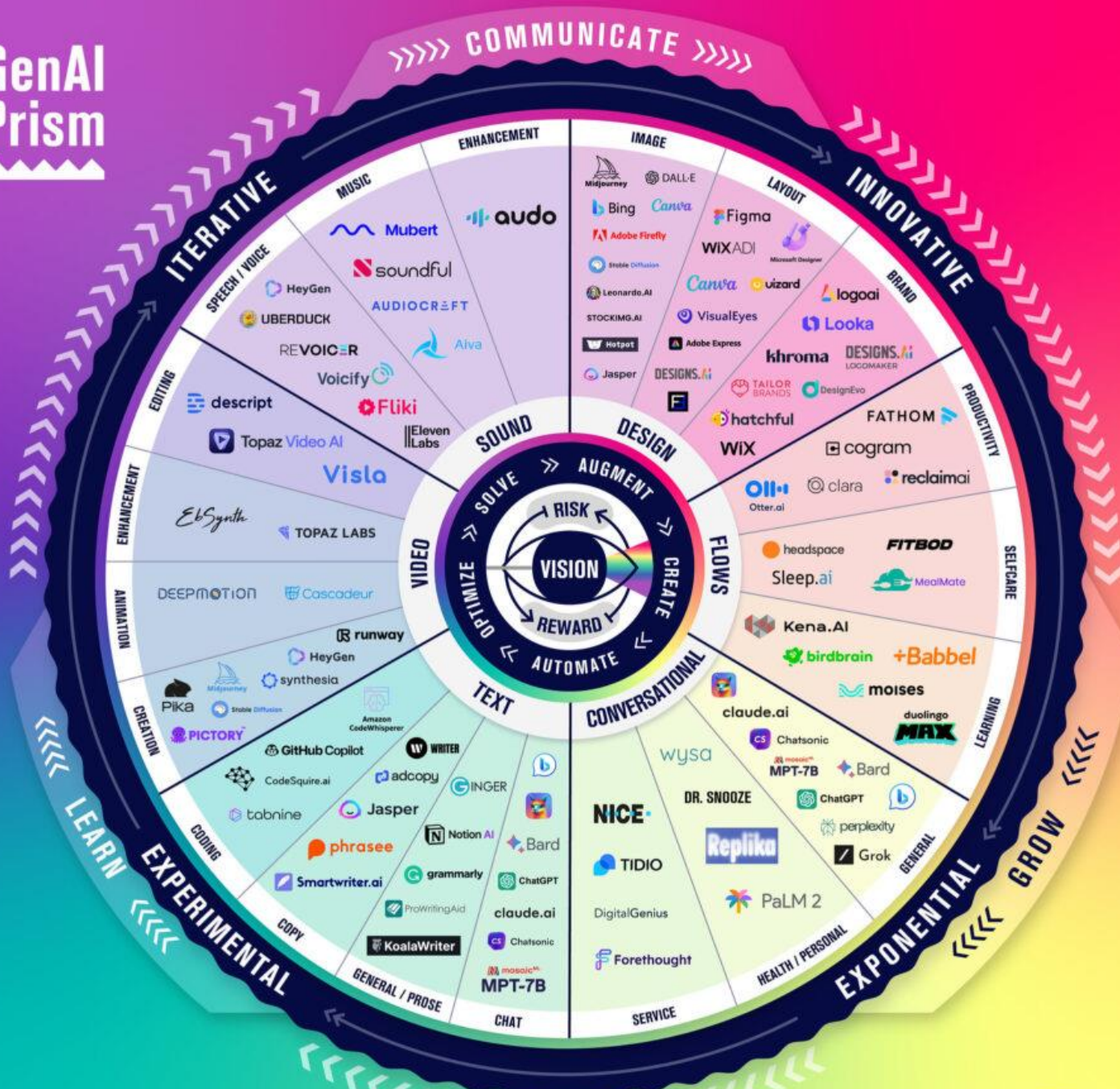
P9_TA(2024)0138

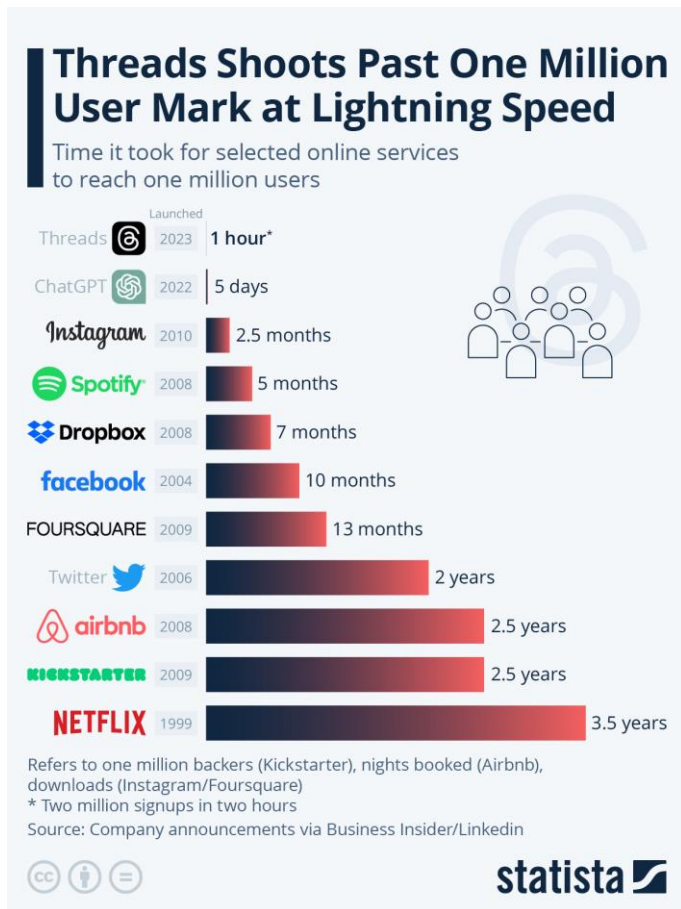
Artificial Intelligence Act

European Parliament legislative resolution of 13 March 2024 on the proposal for a regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (COM(2021)0206 – C9-0146/2021 – 2021/0106(COD))



GenAI Prism







L'intelligenza artificiale applicata in medicina può aumentare la sopravvivenza?



YES



NO



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI-ECG & Mortality



nature medicine

Article

<https://doi.org/10.1038/s41591-024-02961-4>

AI-enabled electrocardiography alert intervention and all-cause mortality: a pragmatic randomized clinical trial

Received: 16 April 2023

Accepted: 29 March 2024

Published online: 29 April 2024

Chin-Sheng Lin^{1,2}, Wei-Ting Liu¹, Dung-Jang Tsai^{2,3,4}, Yu-Sheng Lou³,
Chiao-Hsiang Chang¹, Chiao-Chin Lee¹, Wen-Hui Fang^{3,5}, Chih-Chia Wang⁵,
Yen-Yuan Chen⁶, Wei-Shiang Lin¹, Cheng-Chung Cheng¹, Chia-Cheng Lee^{7,8},
Chih-Hung Wang^{9,10}, Chien-Sung Tsai¹¹, Shih-Hua Lin¹² & Chin Lin^{2,3,13,14}✉



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI-ECG & Mortality

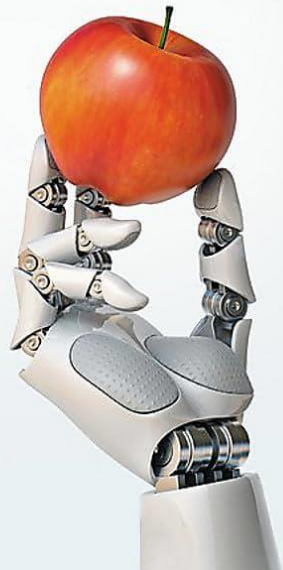


DEEP MEDICINE

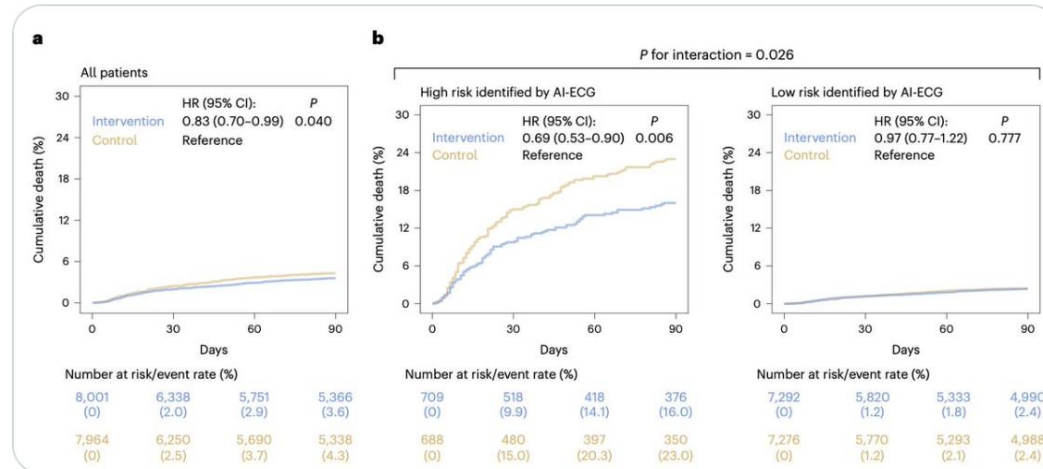
HOW ARTIFICIAL
INTELLIGENCE
CAN MAKE
HEALTHCARE
HUMAN AGAIN

ERIC TOPOL

With a foreword by
ABRAHAM VERGHESE,
author of *Cutting for Stone*



The first randomized trial of medical #AI to show it saves lives
ECG-AI alert in 16,000 hospitalized patients
31% reduction of mortality (absolute 7 per 100 patients) in pre-specified
high-risk group
[nature.com/articles/s4159...](https://www.nature.com/articles/s41591-024-01591-1)
@NatureMedicine



3:24 pm · 29 Apr 2024 · 283.9K Views



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI-ECG & Mortality



39 physicians



16,335 patients



8,001 AI-ECG



7,964
standard ECG

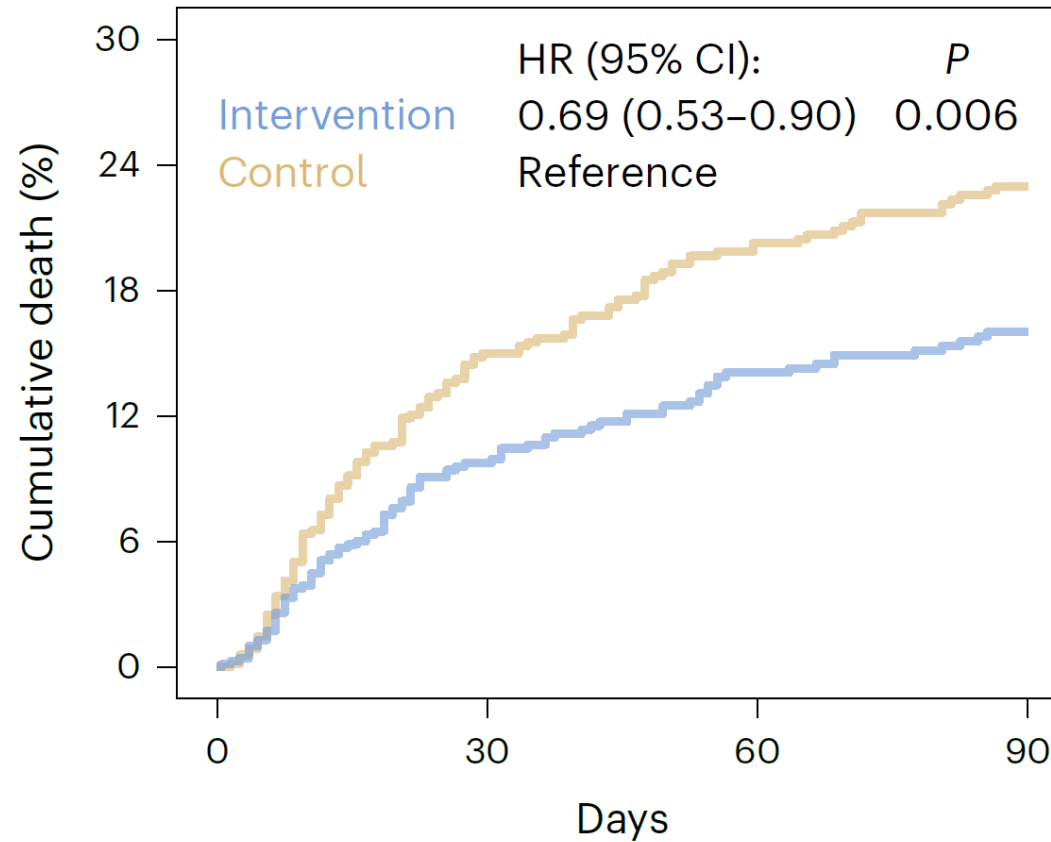


SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI-ECG & Mortality



High risk identified by AI-ECG





AI-ECG & Mortality



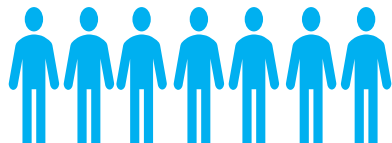
Reduction in Mortality in High-Risk Group:

- In the high-risk group, the intervention reduced the mortality rate from 23.0% in the control group to 16.0% in the intervention group over 90 days. This represents a hazard ratio (HR) of 0.69, indicating a 31% reduction in the risk of dying within 90 days for high-risk patients who received the AI-ECG intervention compared to those who did not (95% CI = 0.53–0.90, P = 0.006).



Absolute Reduction Over 100 Patients:

- To calculate the absolute reduction over 100 patients, we take the difference in mortality rates between the intervention and control groups in the high-risk patients, which is 23.0% - 16.0% = 7.0%. This means that for every 100 high-risk patients treated with the AI-ECG alert, 7 fewer deaths occurred compared to the control group.







SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

AI-ECG & Mortality



Original research

Mortality risk prediction of the electrocardiogram as an informative indicator of cardiovascular diseases

Dung-Jang Tsai^{1,2,3,4}, Yu-Sheng Lou^{2,3,5}, Chin-Sheng Lin⁶, Wen-Hui Fang⁷ ,
Chia-Cheng Lee^{8,9}, Ching-Liang Ho¹⁰, Chih-Hung Wang^{11,12} and Chin Lin^{2,3,4,5} 



DIGITAL HEALTH
Volume 9: 1–16
© The Author(s) 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/20552076231187247
journals.sagepub.com/home/dhj

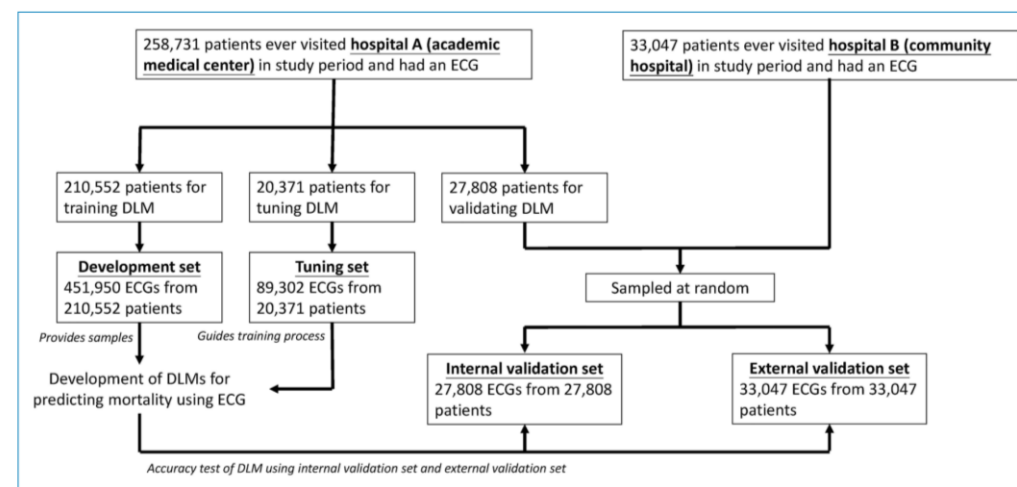


Figure 1. Development, tuning, internal validation, and external validation set generation and ECG labeling of survival information in a private data set. Schematic of the data set creation and analysis strategy, which was devised to ensure a robust and reliable data set for training, validating, and testing of the network. Once a patient's data were placed in one of the data sets, that individual's data were used only in that set, avoiding "cross-contamination" among the training, validation, and test data sets. The details of the flow chart and how each of the data sets was used are described in the methods. DLM: deep learning model; ECG: electrocardiogram.



AUC of 0.858



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Cardiac Arrest



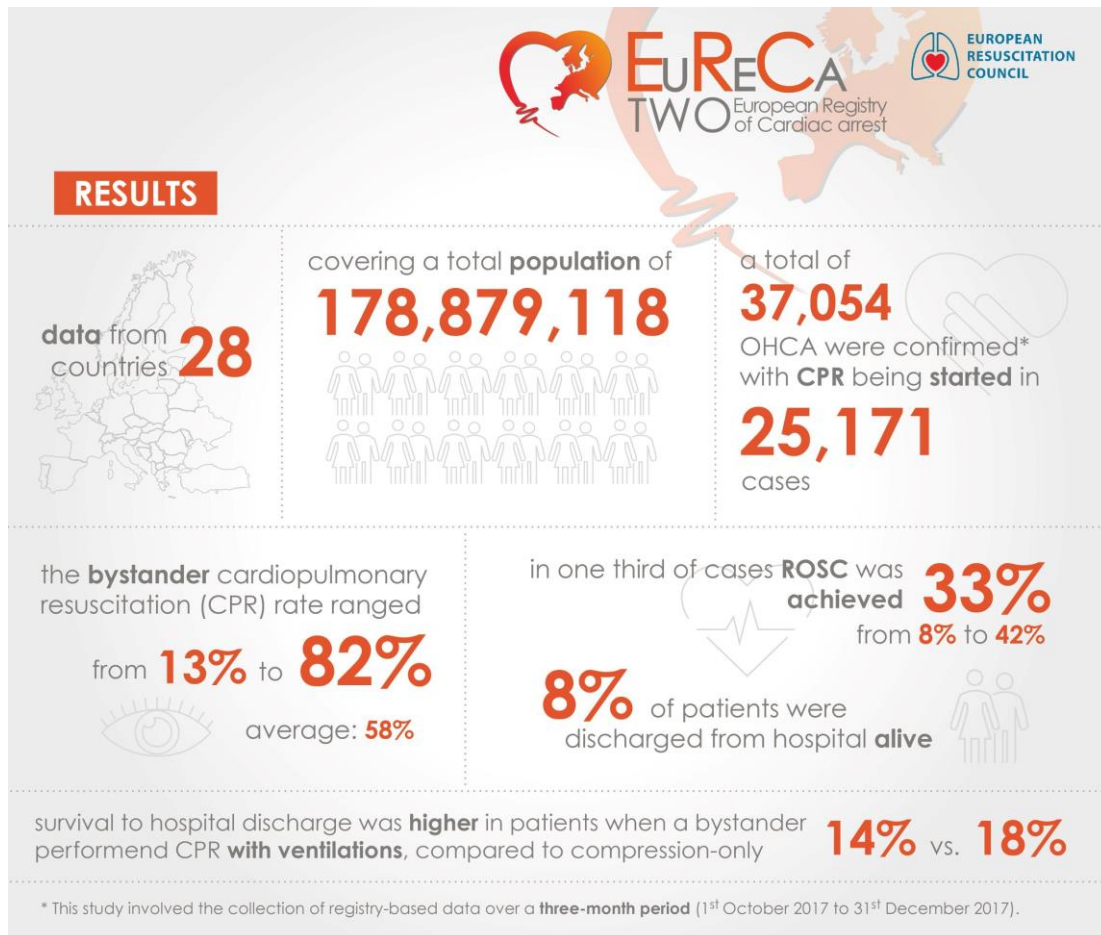
Mille morti al giorno
È come se due jumbo jet si schiantassero
ogni giorno per tutto l'anno in Europa.

Bernd Böttiger
Past Chair ERC



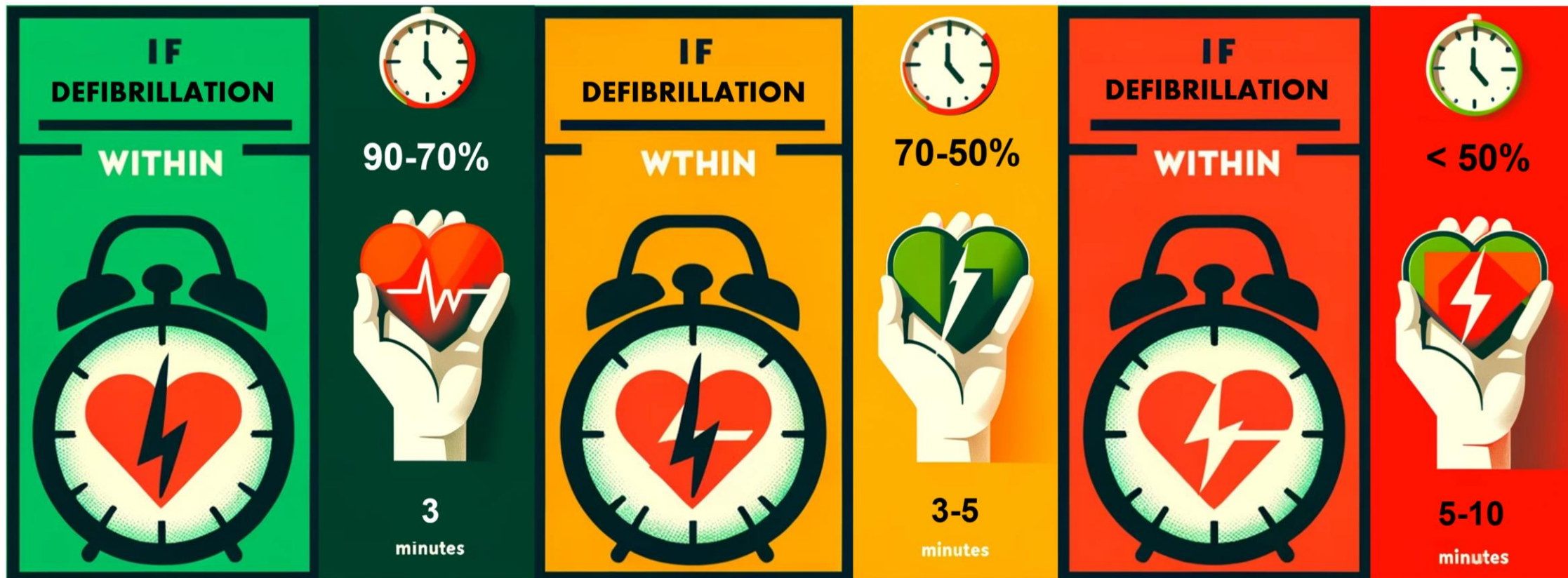
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

EuReCa Two



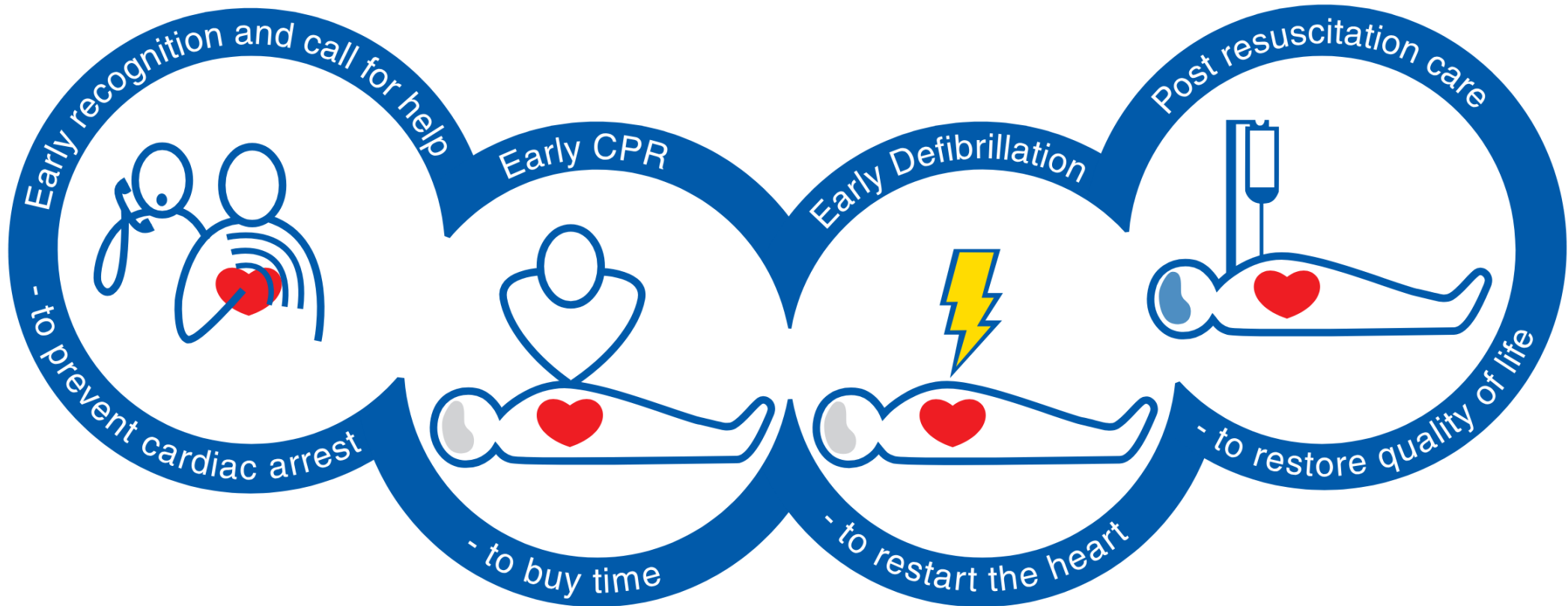


Time is heart & brain





Chain of Survival





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Cardiac Arrest & AI



RESUSCITATION



Trends and insights about cardiac arrest and artificial intelligence on PubMed using ChatGPT-4

[Federico Semeraro](#)   • [Jonathan Montomoli](#) • [Marco Cascella](#) • [Valentina Bellini](#) • [Elena Giovanna Bignami](#)

Published: January 25, 2024 • DOI: <https://doi.org/10.1016/j.resuscitation.2024.110131> •



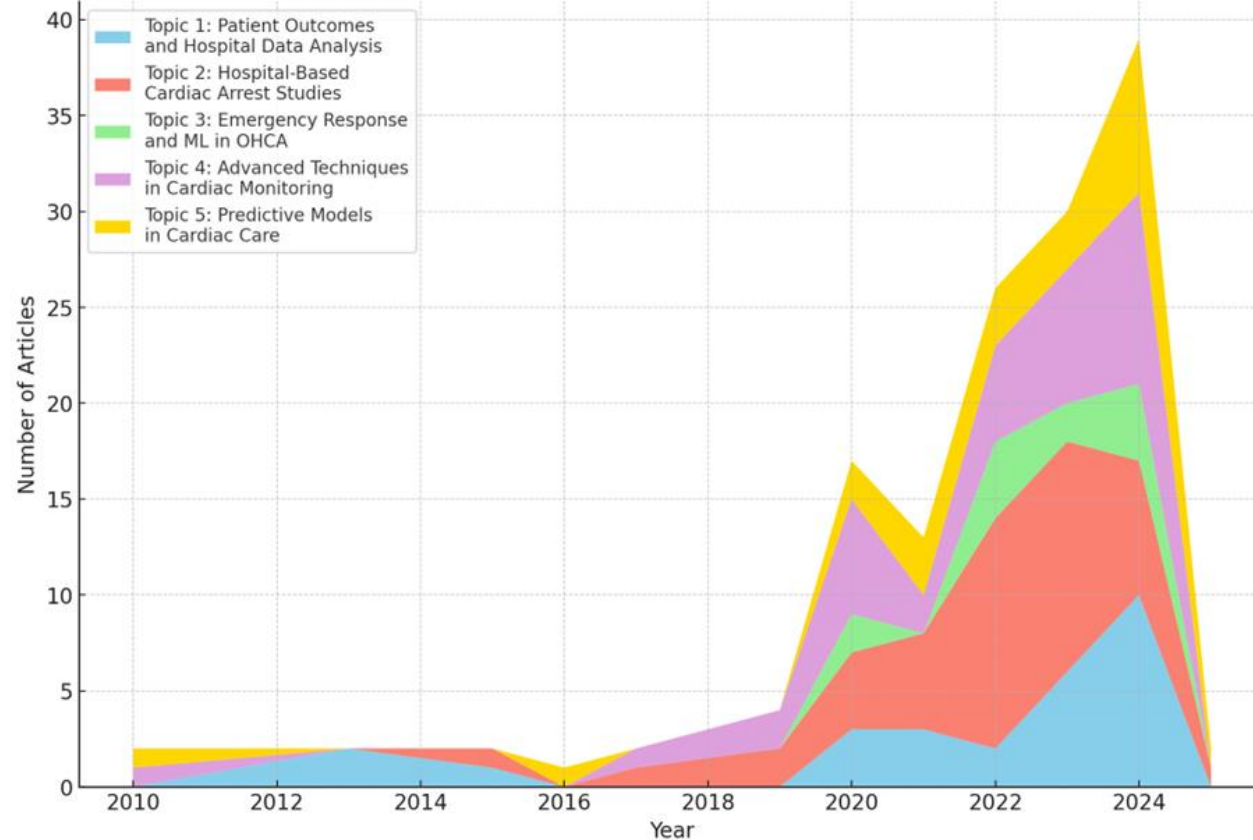
Check for updates



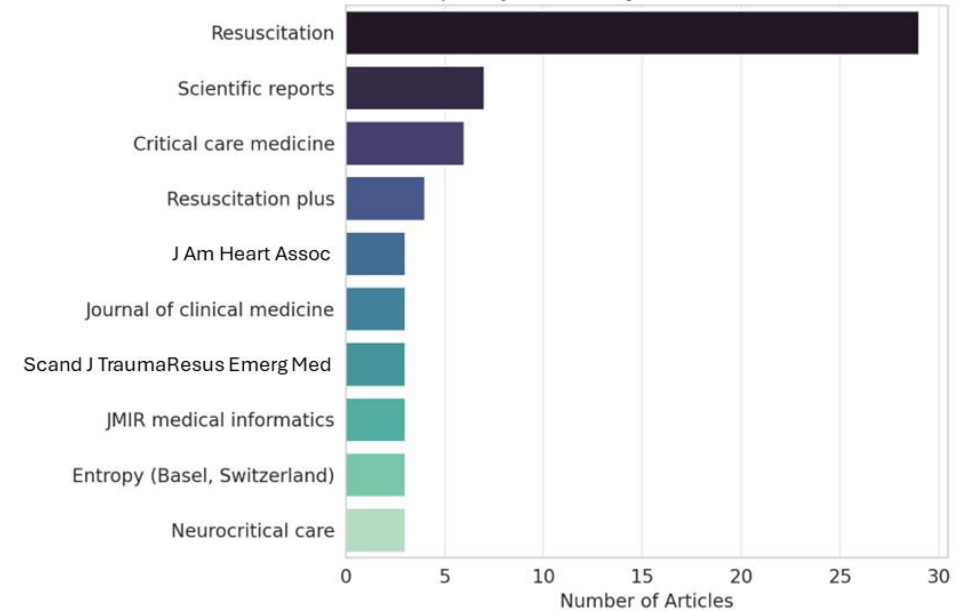
Cardiac Arrest & AI



Distribution of Topics Over Time (Stacked Area Chart)



Top 10 Journals by Number of Articles





Letter to the Editor

Enhancing Cardiac Arrest Education: Exploring the potential use of MidJourney



Dear Editor,

Artificial Intelligence (AI) is rapidly reshaping the landscape of healthcare by transforming various aspects of patient care, medical research, and operational efficiency. In healthcare settings, AI systems are enabling precise diagnosis, accurate prediction of disease progression and outcomes, personalizing patient treatments, automating routine tasks, managing vast volumes of patient data, and facilitating remote patient monitoring, thereby propelling healthcare towards an era of unprecedented accuracy and efficiency.¹

In the light of the expanding influence of AI, we embarked on an exploration of the potential of MidJourney (MJ), a San Francisco-based generative AI program developed by an independent research lab. MJ, similar to AI models like OpenAI's DALL-E and Stable Diffusion, is capable of generating images from textual prompts, known as natural language descriptions.

This unique capability makes MJ an invaluable tool in medical education. The use of high-quality, custom-designed images can enhance teaching materials and enrich the overall learning experience. The efficacy of visual learning and visual media in medical education is well-documented.² Leveraging MJ's capabilities, educators can craft interactive, real-life simulations that foster an engaging learning environment for medical trainees, particularly in areas as critical as cardiac arrest (CA) education (Fig. 1).

Moreover, MJ's capacity to construct interactive scenarios extends its applicability to layperson training. It enables the creation of simplified scenarios that can be integrated with virtual reality tools for educating children about health issues. This potential makes MJ a powerful tool for crafting engaging dissemination materials to heighten public awareness about pressing health matters like CA.

However, the application of MJ in the domain of medical art is not without limitations. MJ employs a list of banned terms, which includes certain medical terminologies, to prevent the generation of violent or graphic content. In addition, the platform's algorithm may generate varied results due to the limited pool of quality medical images, algorithmic biases, and inherent challenges associated with interpreting specialized medical terminology³ (Supplemental Materials).

To address these limitations, future enhancements could involve creating certified accounts for recognized public institutions or

scientific societies.⁴ These certified users could work without certain terminology restrictions, taking on the responsibility for content creation. Additionally, the establishment of a closed database featuring accurate scientific illustrations could help train MJ's system further. Strictly limiting the use of such images to scientific applications would ensure compliance with copyright and privacy regulations.

In conclusion, AI-generated art platforms like MJ hold immense potential in the field of medical education, particularly in areas like CA training.⁵ These platforms can significantly contribute to the development of educational materials for professionals and community education in cardiopulmonary resuscitation. However, the current limitations in the production of medical art using AI necessitate continuous improvements. These include involving professionals in the training process, expanding the image resources pool, and developing more robust algorithms capable of effectively handling complex medical terminology. By addressing these challenges, we can enhance the accuracy and reliability of AI platforms like MJ, bringing them more in line with user expectations, and unlocking their full potential in healthcare education.

CRedit authorship contribution statement

Carlo Alberto Mazzoli: Conceptualization, Data curation, Methodology, Supervision, Writing – original draft, Writing – review & editing.
Federico Semeraro: Conceptualization, Data curation, Methodology, Supervision, Writing – original draft, Writing – review & editing.
Lorenzo Gamberini: Conceptualization, Data curation, Methodology, Supervision, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: No relationship exists between any of the authors and any commercial entity or product mentioned in this manuscript that might represent a conflict of interest. No inducements have been made by any commercial entity to submit the manuscript for publication.

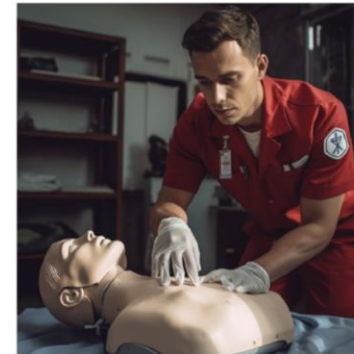


Fig. 1 – Example of the image about cardiac arrest training generated by MidJourney.

All within 3 years of beginning the work submitted. FS is the Chair-Elect of the European Resuscitation Council, Chair of the ILCOR Social Media Working Group and ILCOR BLS Working Group members. LG are Scientific Committee members of the Italian Resuscitation Council. CAM has no conflicts of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.resuscitation.2023.109893>.

REFERENCES

1. Yoon JH, Pinsky MR, Clermont G. Artificial intelligence in critical care medicine. *Crit Care* 2022;26. <https://doi.org/10.1186/s13054-022-03915-3>.
2. Ferrara V, De SS, Manicone F, Martino A, Consorti F. The visual art as a learning tool in medical education. *Senses Sci* 2020;7:1028–40. <https://doi.org/10.14616/sands->
3. Cammer M. Too bad to be fraud, Midjourney has yet to embark in science. *bioRxiv* 2023. <https://doi.org/10.1101/2023.01.28.526052>.
4. Kuslich S. Is Midjourney AI Smart enough to make Medical Art? <https://www.ghostproductions.com/news/is-midjourney-ai-smart-enough-to-make-medical-art/>. Accessed June 13, 2023.
5. Masked B. The real era of the art of medicine begins with artificial intelligence. *J Med Internet Res* 2019;21. <https://doi.org/10.2196/16295> e16295.

Carlo Alberto Mazzoli
Federico Semeraro*
Lorenzo Gamberini

Department of Anesthesia, Intensive Care and Prehospital Emergency,
Maggiore Hospital Carlo Alberto Pizzardi, Bologna, Italy

* Corresponding author at: Department of Anesthesia, Intensive Care and EMS, Ospedale Maggiore Carlo Alberto Pizzardi, Bologna, Italy.

E-mail address: federico.semeraro@ausl.bologna.it (F. Semeraro).

Received 21 June 2023

Accepted 27 June 2023

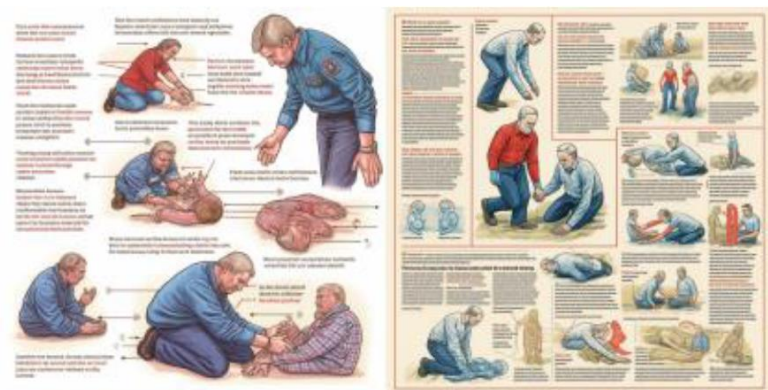
<https://doi.org/10.1016/j.resuscitation.2023.109893>

© 2023 Elsevier B.V. All rights reserved.



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Midjourney





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



COMMENTARY AND CONCEPTS | [ARTICLES IN PRESS](#), 110250

Cardiac arrest and cardiopulmonary resuscitation in the next decade: Predicting and shaping the impact of technological innovations

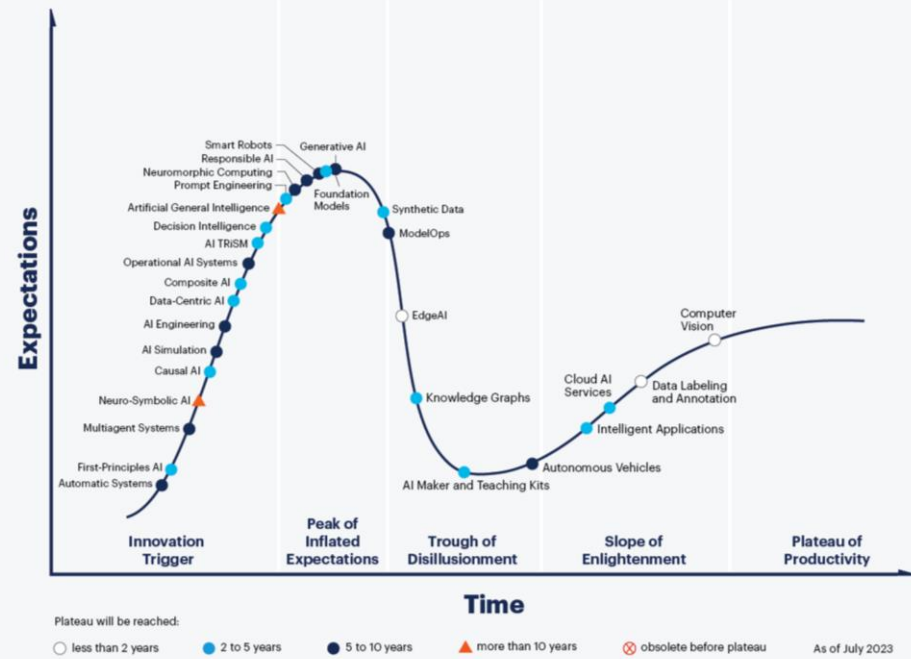
[Federico Semeraro](#) • [Sebastian Schnaubelt](#) • [Carolina Malta Hansen](#) • [Elena Giovanna Bignami](#) •

[Ornella Piazza](#) • [Koenraad G. Monsieurs](#)

Published: May 22, 2024 • DOI: <https://doi.org/10.1016/j.resuscitation.2024.110250>



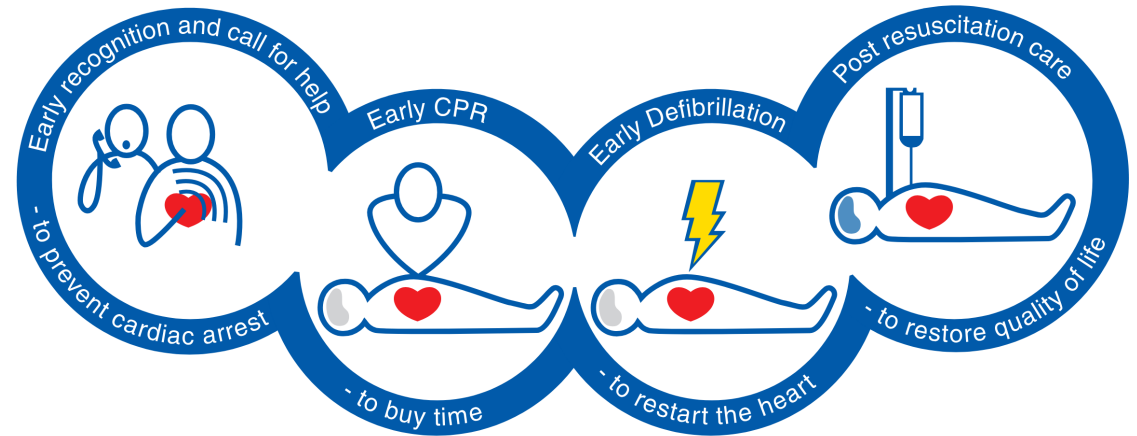
Hype Cycle for Artificial Intelligence, 2023



gartner.com

Source: Gartner
© 2023 Gartner, Inc. and/or its affiliates. All rights reserved. 2079794

Gartner.





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



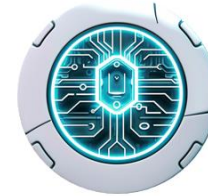
**Smart
Speaker**



**Wearable
Devices**



**Wireless
Detector**



**Generative
AI**



**Immersive
Reality**



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



**Smart
Speaker**

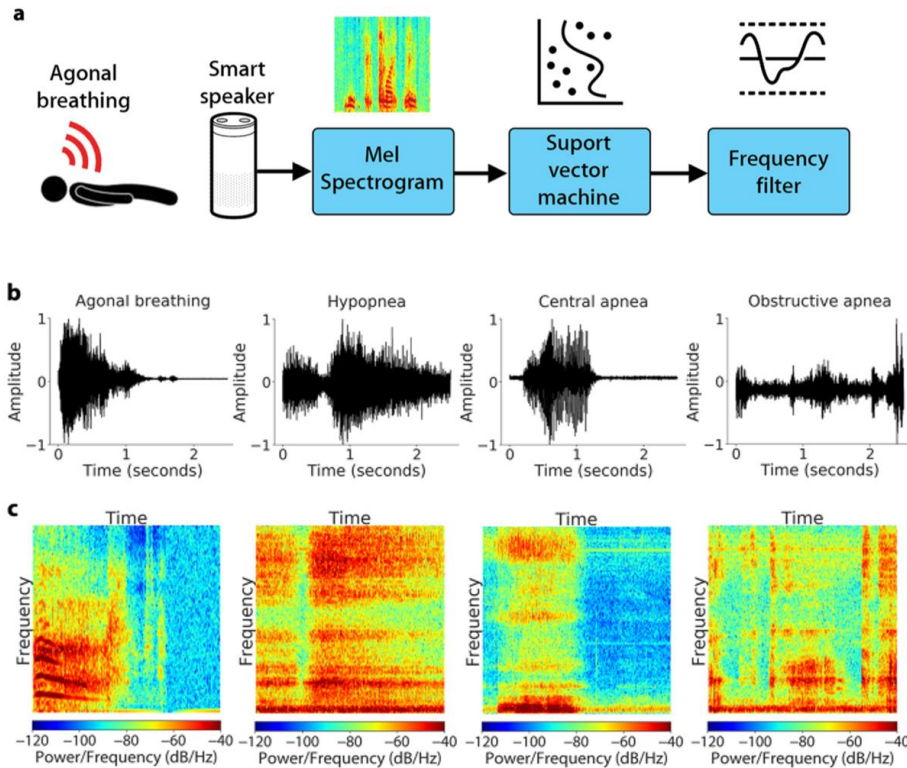
npj | Digital Medicine

www.nature.com/npjdigitalmed

ARTICLE OPEN

Contactless cardiac arrest detection using smart devices

Justin Chan¹, Thomas Rea^{2,3}, Shyamnath Gollakota¹ and Jacob E. Sunshine¹





Wearable Devices

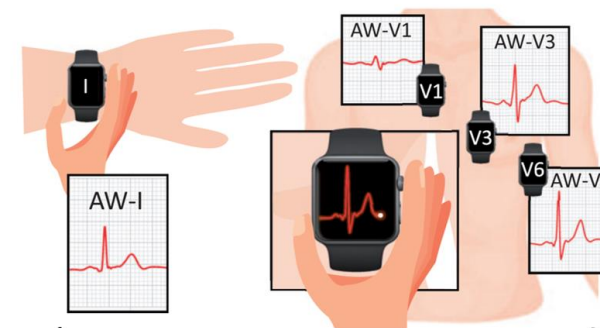
 **ESC**
European Society
of Cardiology

Europace (2022) 24, 406–412
doi:10.1093/europace/euab192

CLINICAL RESEARCH
Sudden death and ICDs

Using a smartwatch electrocardiogram to detect abnormalities associated with sudden cardiac arrest in young adults

Mathieu Nasarre¹, Marc Strik^{1,2*}, Francisco Daniel Ramirez^{1,2,3}, Samuel Buliard¹, Hugo Marchand¹, Saer Abu-Alrub^{1,2}, Sylvain Ploux^{1,2}, Michel Haïssaguerre^{1,2}, and Pierre Bordachar^{1,2}



This Smart Watch Detects Cardiac Arrest, and Summons Help

The new iBeat Heart Watch raises the alert if your heart rate falters

BY ELLEA BYSTROCKLAND | 17 JUL 2020 | 4 MIN READ | 0



PHOTO: JACOB

Use fall detection with Apple Watch

If Apple Watch SE or Apple Watch Series 4 or later detects a hard fall, it can help connect you to emergency services if needed.

Here's how it works

If Apple Watch SE or Apple Watch Series 4 or later detects a hard fall while you're wearing your watch, it taps you on the wrist, sounds an alarm, and displays an alert. You can choose to contact emergency services or dismiss the alert by pressing the Digital Crown, tapping Close in the upper-left corner, or tapping "I'm OK."





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



**Wireless
Detector**



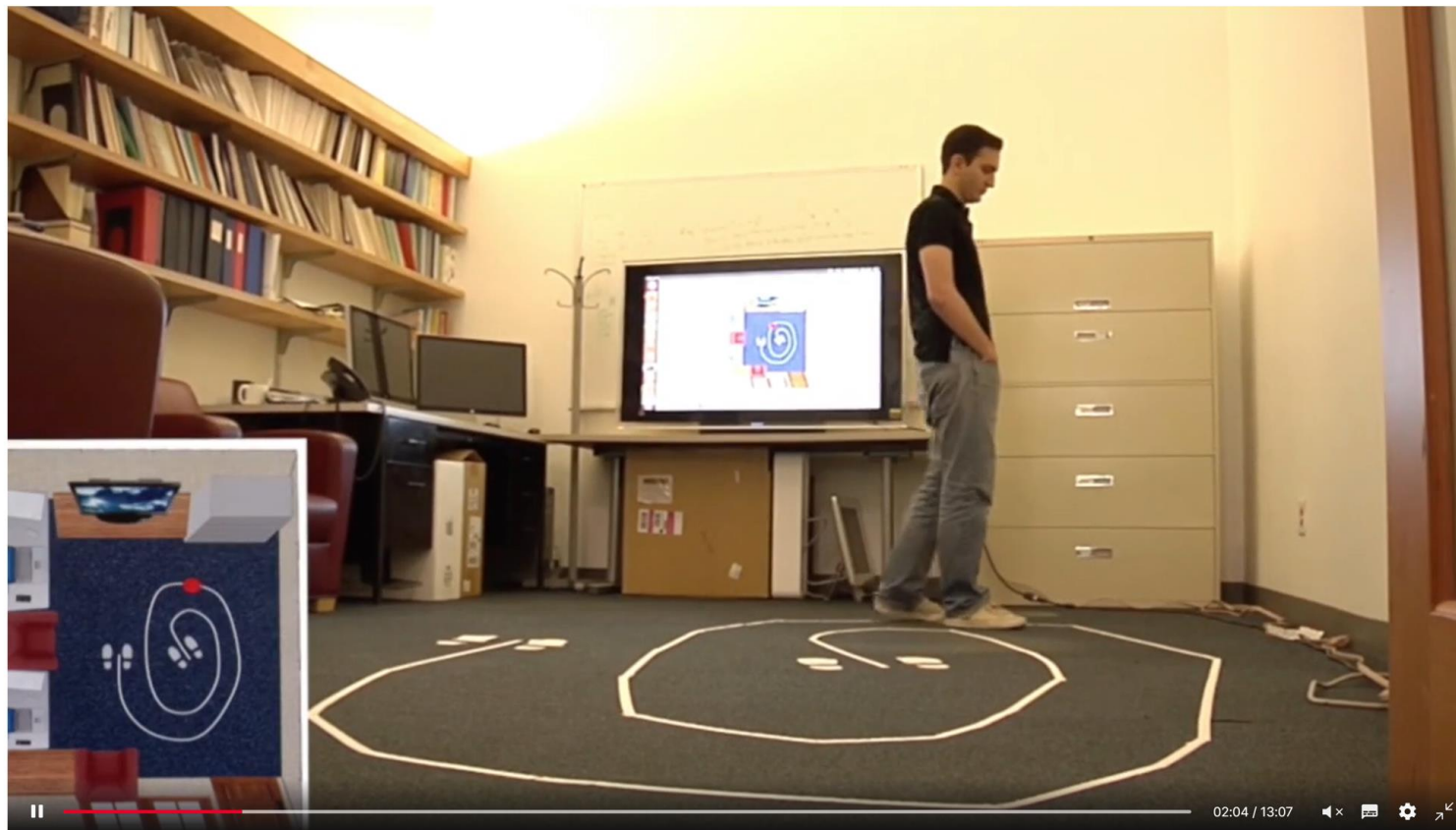
A new way to monitor vital signs (that can see through walls)



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



**Wireless
Detector**

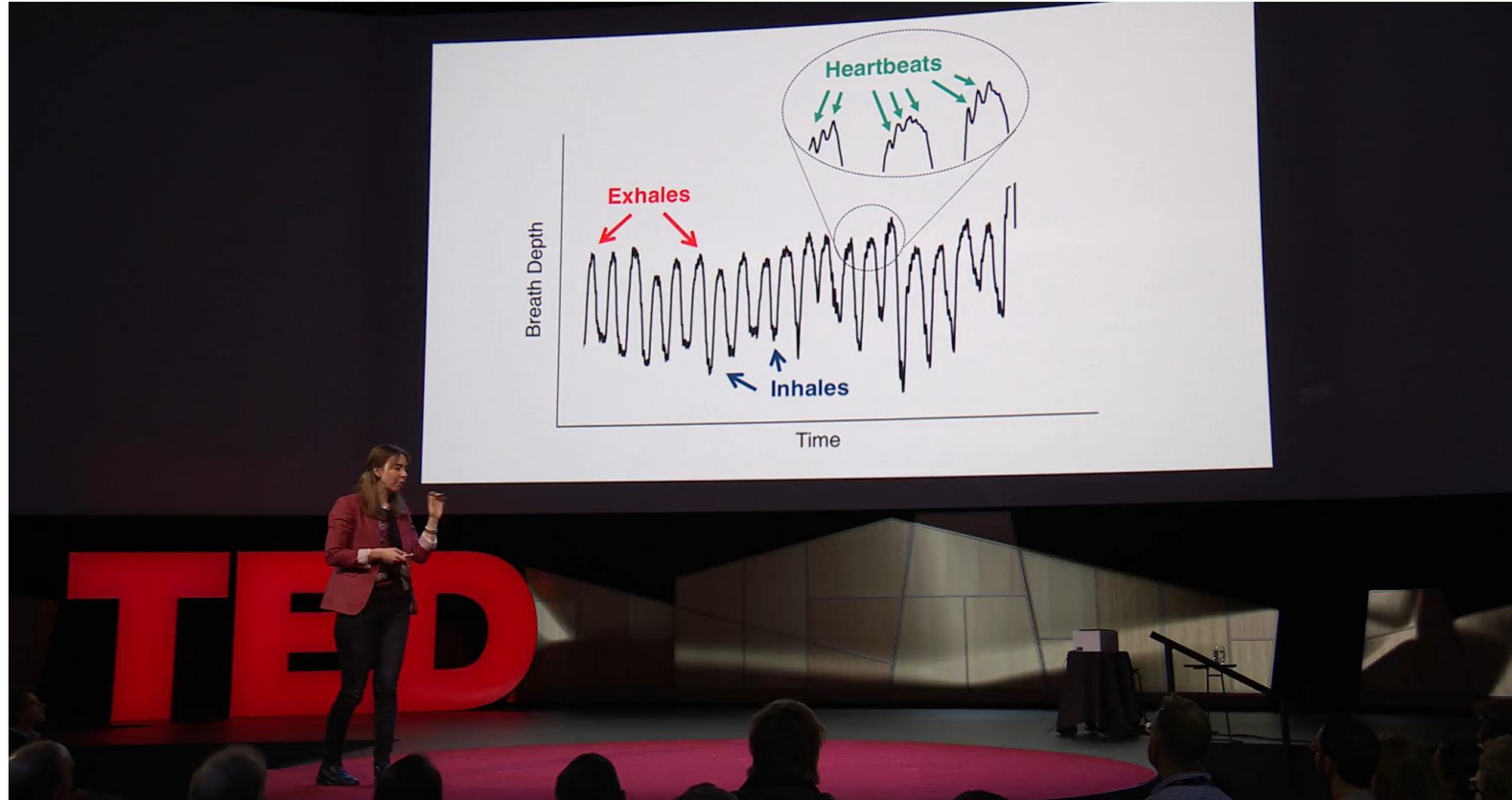




SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

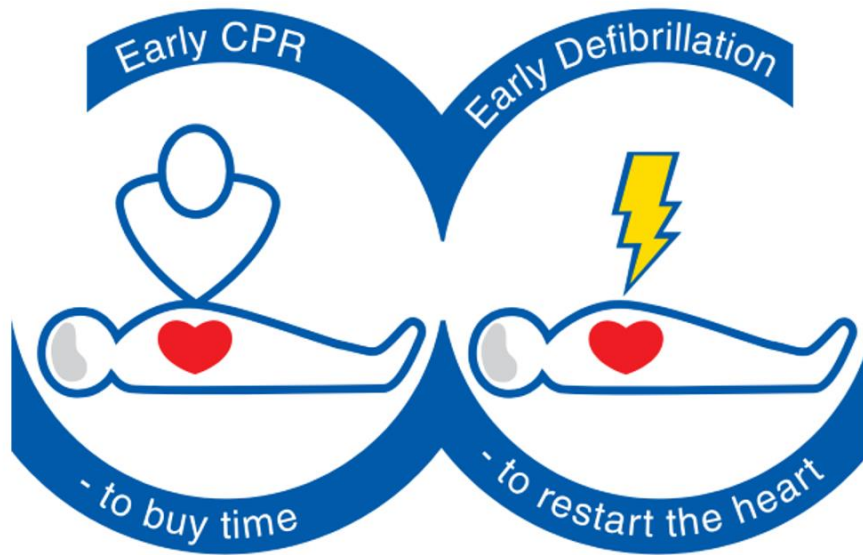


**Wireless
Detector**





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



**Wearable
AED**



**Robot
CPR**



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



**Wearable
AED**





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

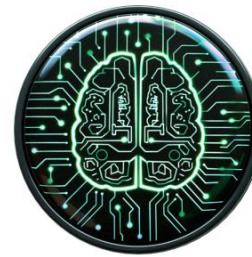


**Robot
CPR**





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



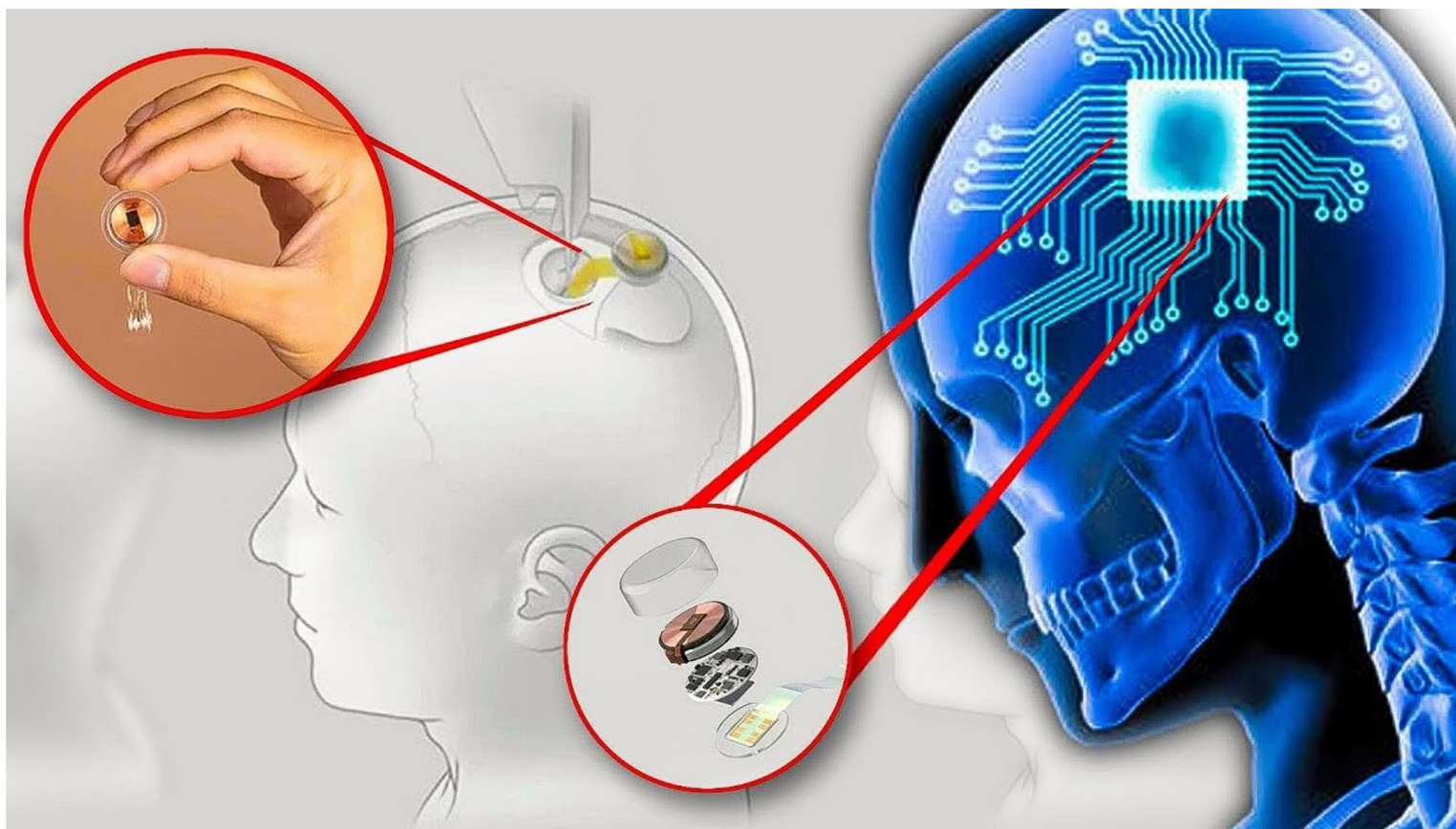
**Brain Computer
Interface**



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



Brain Computer Interface





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



Smart
Speaker



Wearable
Devices



Wireless
Detector



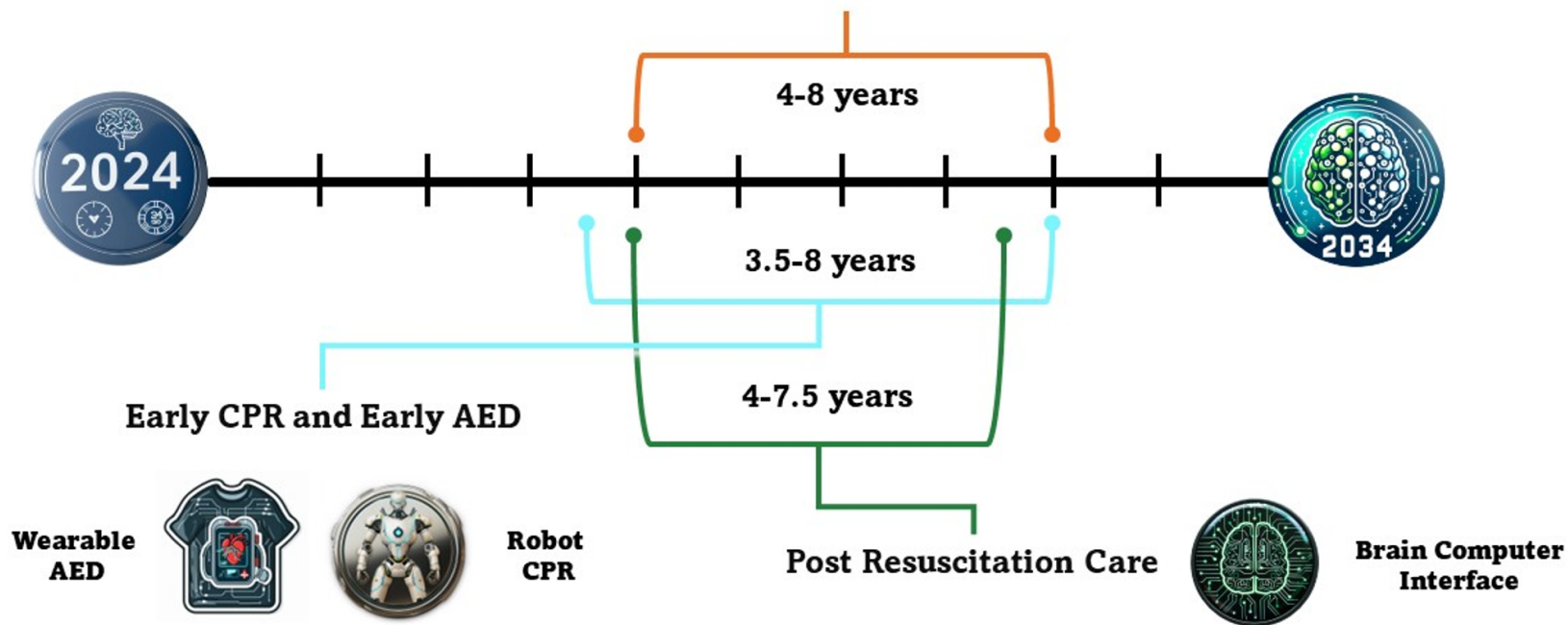
Generative
AI



Immersive
Reality



Early Recognition and Call for Help





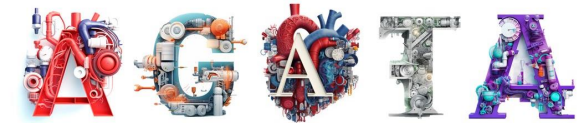
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

Ethics



Journal of Clinical Monitoring and Computing
<https://doi.org/10.1007/s10877-024-01157-y>

LETTER TO THE EDITOR



Algor-ethics: charting the ethical path for AI in critical care

Jonathan Montomoli^{1,2} · Maria Maddalena Bitondo¹ · Marco Cascella³ · Emanuele Rezoagli^{4,5} · Luca Romeo⁶ ·
Valentina Bellini⁷ · Federico Semeraro⁸ · Emiliano Gamberini¹ · Emanuele Frontoni⁹ · Vanni Agnoletti¹⁰ ·
Mattia Altini¹¹ · Paolo Benanti¹² · Elena Giovanna Bignami⁷

Received: 18 March 2023 / Accepted: 22 March 2024
© The Author(s) 2024

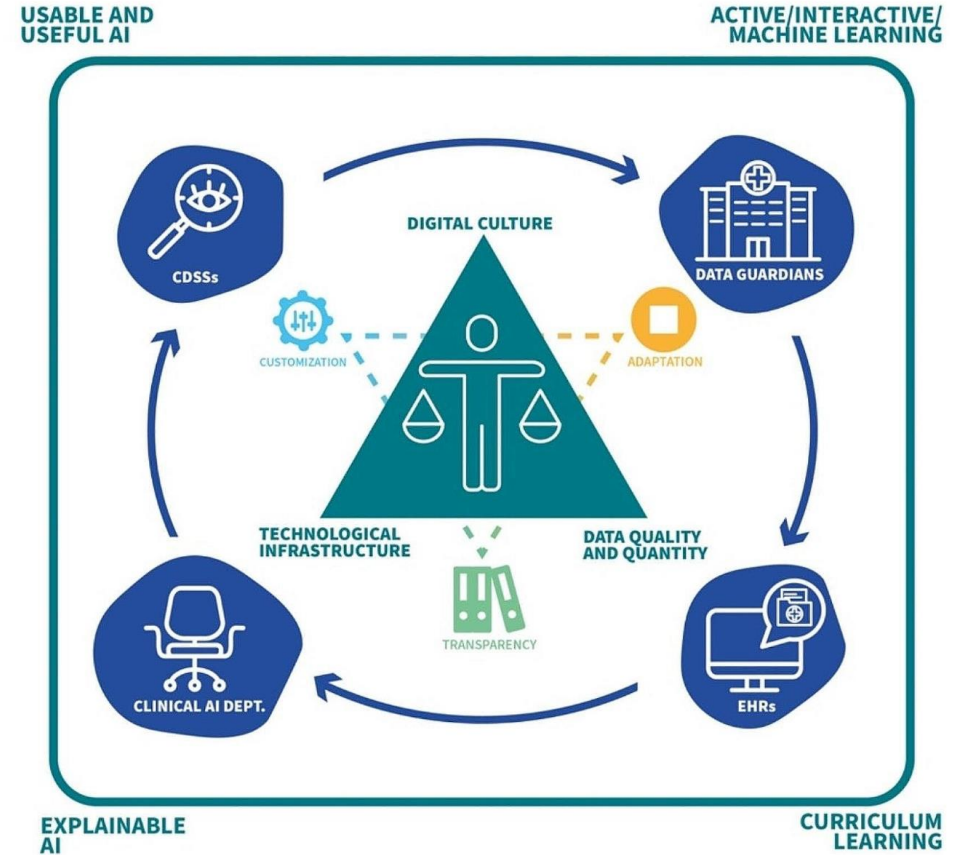


Ethics



Key Message:

The integration of AI in critical care, while promising, faces significant ethical challenges and technical complexities. Ensuring the ethical use of AI requires algor-ethics, a framework that emphasizes human-centered AI development and implementation. This involves addressing potential biases in data acquisition, algorithm development, and deployment to maintain fairness and responsibility. The concept of Algorithmic Stewardship is introduced to guide the integration and management of AI technologies, ensuring they are aligned with human values and can adapt to the evolving landscape of healthcare. Establishing Clinical AI Departments (CAID) is crucial for leading AI innovation responsibly, fostering a digital culture, and ensuring continuous adaptation and improvement of AI systems in healthcare settings.

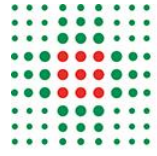




SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

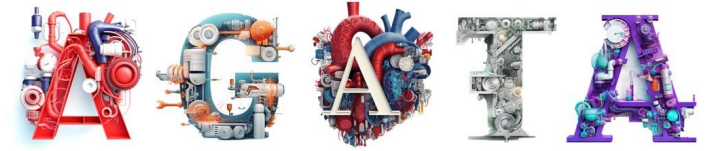
Ethics





Azienda Unità Sanitaria Locale
Bologna
Istituto delle Scienze Neurologiche IRCCS

agatateam.blog



AGATA TEAM

ABOUT US

NEWS

ANESTHESIA & PERIOPERATIVE MEDICINE

INTENSIVE CARE

PAIN & ANALGESIA

EMERGENCY

DIGITAL INNOVATION

ETICHS

EDUCATIONAL

LAST



AGATA, Cardiac Arrest, Digital Innovation

The Role of Artificial Intelligence in Cardiac Arrest: Innovations and Future Predictions



AGATA, Digital Innovation

Exciting New Survey on AI in Medicine for Healthcare Professionals

Agata Team

*"A life is like a garden.
Perfect moments can be
had, but not preserved,
except in memory. LLAP"*

*-Leonard Nimoy
@TheRealNimoy*

