Chiacchierata tra NERDs

artificial intelligence, machine learning

passato, presente e futuro

me

- Laurea triennale e magistrale in Informatica, Bari, Italy
- Ph.D. in Computer Science, Manchester, UK
- PostDoc in Computer Science and Artificial Intelligence Lab (CSAIL) MIT
- Adjunct Professor in State University of New York (SUNY) at Albany, NY

AI

- studio dei meccanismi di calcolo sottesi al pensiero e al comportamento intelligente
  - *"Computing Machinery and Intelligence"*, Alan M. Turing, 1950
  - *"The Society of Mind"*, Marvin Minsky, 1988
- aree di ricerca:
  - ragionamento, rappresentazione della conoscenza, pianificazione, apprendimento, comunicazione, percezione, interazione

presente

- non facciamo calcoli a mano
- non guidiamo aerei o treni per il trasporto civile
- non bilanciamo reazioni chimiche
- non proviamo teoremi
- non giochiamo in borsa
- non abbiamo bisogno di orientarci
- non inventiamo nuovi materiali

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Sanders' Tweet on Drugmaker Ariad's 'Greed' Sends Stock Plunging

by   Doni Bloomfield
🐦 DoniBloomfield

October 14, 2016 — 3:16 PM EDT

A 114-character tweet from Senator Bernie Sanders' twitter account cost Ariad Pharmaceuticals Inc. investors as much as $387 million on Friday afternoon.

"Drug corporations' greed is unbelievable. Ariad has raised the ___ of a leukemia drug to almost $199,000 a year," said the tweet, ___ g to an article about the drugmaker written by Stat News.

LIVE TV
AUDIO

'Rogue' Algorithm Blamed for Historic Crash of the British Pound

George Dvorsky

10/07/16 9:38am · Filed to: FINANCE

49.4K   91   7

Image: TheBigData

indovina chi?

- spende 3.700 miliardi di $ all'anno
  - 10 olimpiadi + TOP 15 aziende + TOP 10 fondazioni
- spreca 750 miliardi di $ all'anno
  - il budget per finanziare la NASA negli ultimi 50 anni
  - Apple (605), Google (527), Apollo program (203), Fukushima(13), LHC (9), Chernobyl (3)
- uccide circa 329.000 persone/anno per errore
  - 900 persone/giorno
  - ISIS ha ucciso un totale di 1200 persone dal 23 Sett. 2014

U.S. Health care

(sistema sanitario degli Stati Uniti d'America)

Artificial Intelligence in Medicine

Edited by Peter Szolovits

(AAAS Selected Symposia Series, Volume 51)

1982

This book introduces the field of artificial intelligence in medicine, a new research area that combines sophisticated representational and computing techniques with the insights of expert physicians to produce tools for improving health care. An introductory chapter describes the historical and technical foundations of the work and provides an overview of the current state of the art and research directions. The authors then describe five prototype computer programs that tackle difficult clinical problems in a manner similar to that of an expert physician. The programs presented are INTERNIST, a diagnostic aid that combines a large database of disease/manifestation associations with techniques for problem formulation; EXPERT and the Glaucoma Program which use physiological models for the diagnosis and treatment of eye disease; MYCIN, a rule-based program for diagnosis and therapy selection for infectious diseases; the Digitalis Therapy Advisor, which aids the physician in prescribing the right dose of the drug digitalis and also explains its actions; and ABEL, a program that uses multi-level pathophysiologic models for diagnosis of acid-base and electrolyte disorders.

2000 Note

This book has been out of print since the early 1990's, though it is still often available through book search services, including the usual on-line ones. The original book was relatively popular for a symposium book; it was re-published in paperback and went through several printings. From the vantage point of nearly twenty years after its publication, I believe that many of the ideas in the chapters are still vibrant. Sophisticated modeling in artificial intelligence approaches to medical reasoning have to a significant extent been supplanted by attempts to exploit knowledge implicit in large clinical datasets via machine learning techniques. At the same time, medical record systems have moved toward routine adoption so slowly that the authors would have been shocked in 1982 to discover that many of the ideas we described are still immensely difficult to apply in practice because the data they rely on are not normally available in machine-readable form.

I have reconstructed this volume in HTML and made it available on the Web in the hope that it will inspire new researchers to learn about some of the elegant older work and to take up the challenges not yet met.

Conventions for the appearance of books as Web documents have not yet been firmly established. In the present attempt, I have chosen to encode each chapter as a single document (with the exception of a long transcript in Chapter 5, which is linked as a separate page). Figures appear in-line, at low resolution. Where this is insufficient to allow the reader to interpret details, these images are hyperlinked to very large 300dpi versions. Layout of pages in the original is, of course, completely lost in this form. I have refrained from editing the text except to correct a few obvious typographic and editorial errors in the original. It must be read, therefore, as a work from the early 1980's, without benefit of our current knowledge of its future. I hope that the style of this work will be acceptable, and that its content will intrigue.

Peter Szolovits
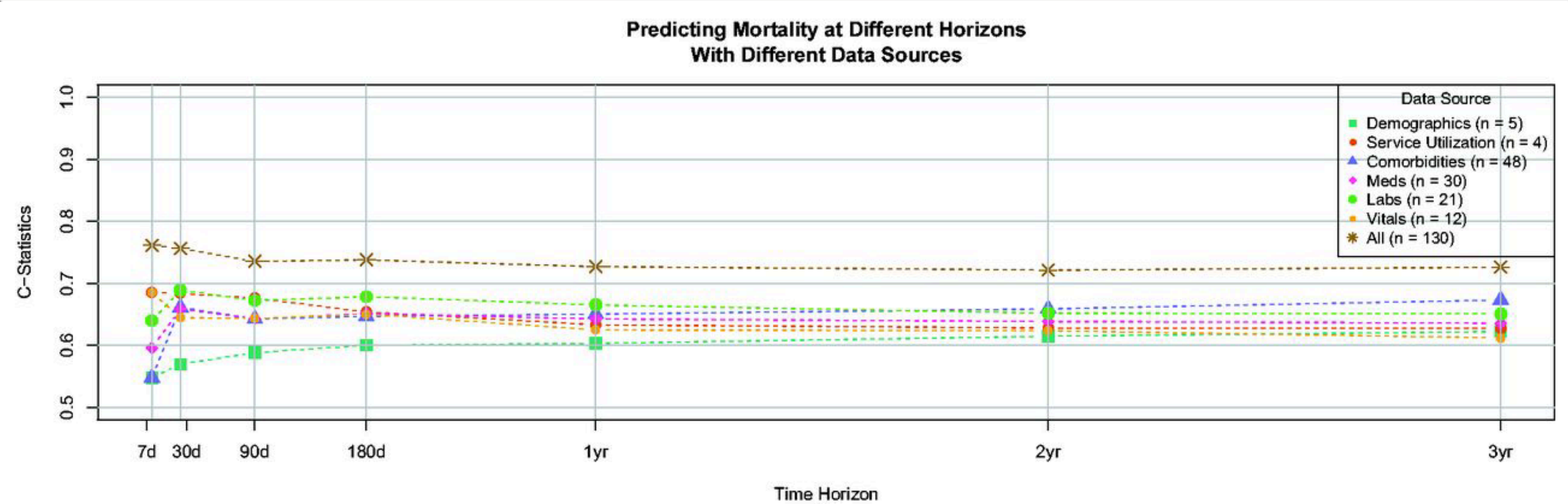Cambridge, Mass.
January 2000

Contents

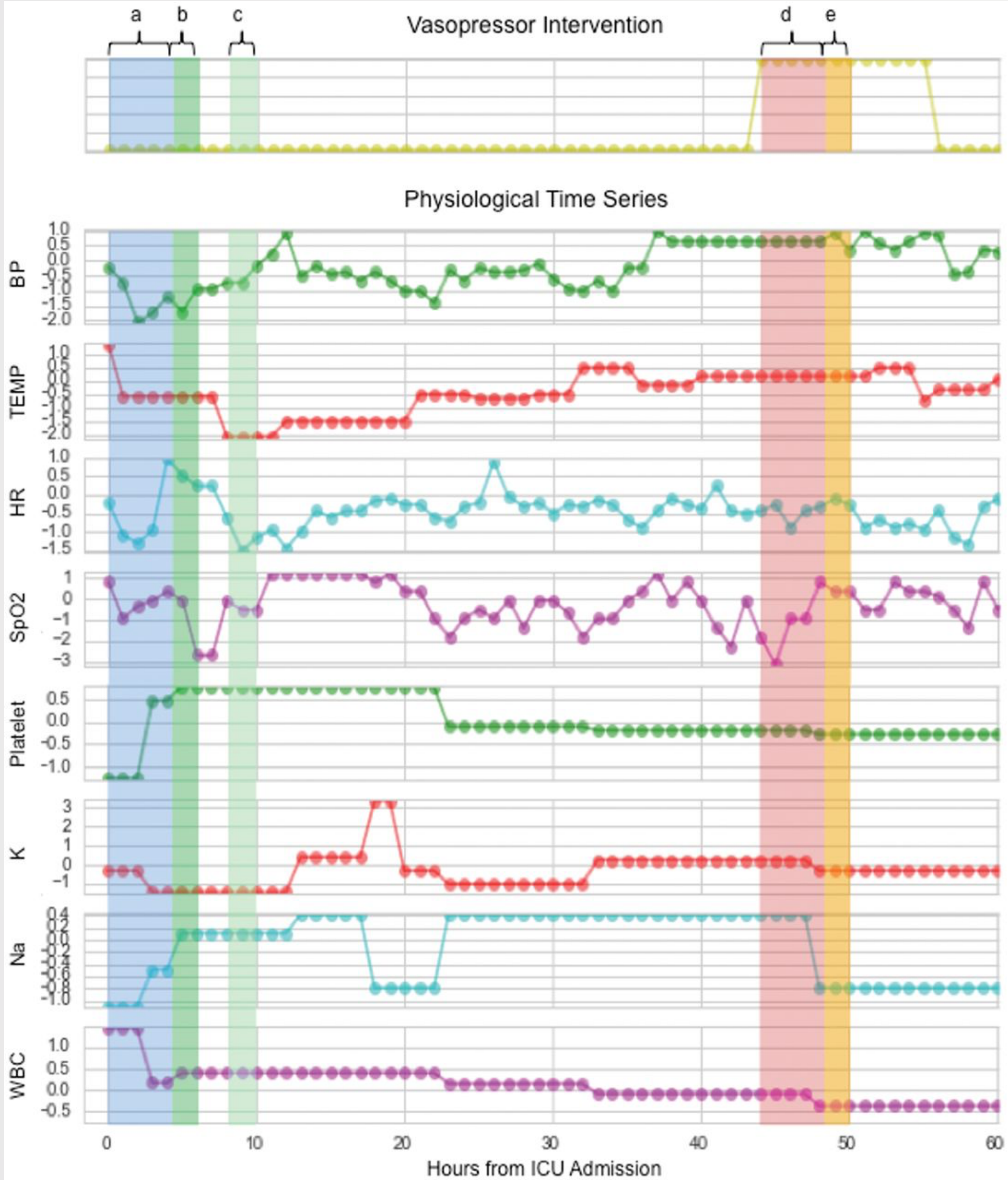# riforme & programmi

- 1996: HIPAA (Health Insurance and Accountability Act)
- 2009: ARRA (American Recovery and Reinvestment Act)
- 2009: HITECH (Health Information Technology for Economic and Clinical Health Act)
- 2015 EHFA (Electronic Health Fairness Act)
- 2016 EHR Incentive Program

- Dopo 5 anni, il 90% degli ospedali e ambulatori in USA opera esclusivamente su cartelle cliniche digitali
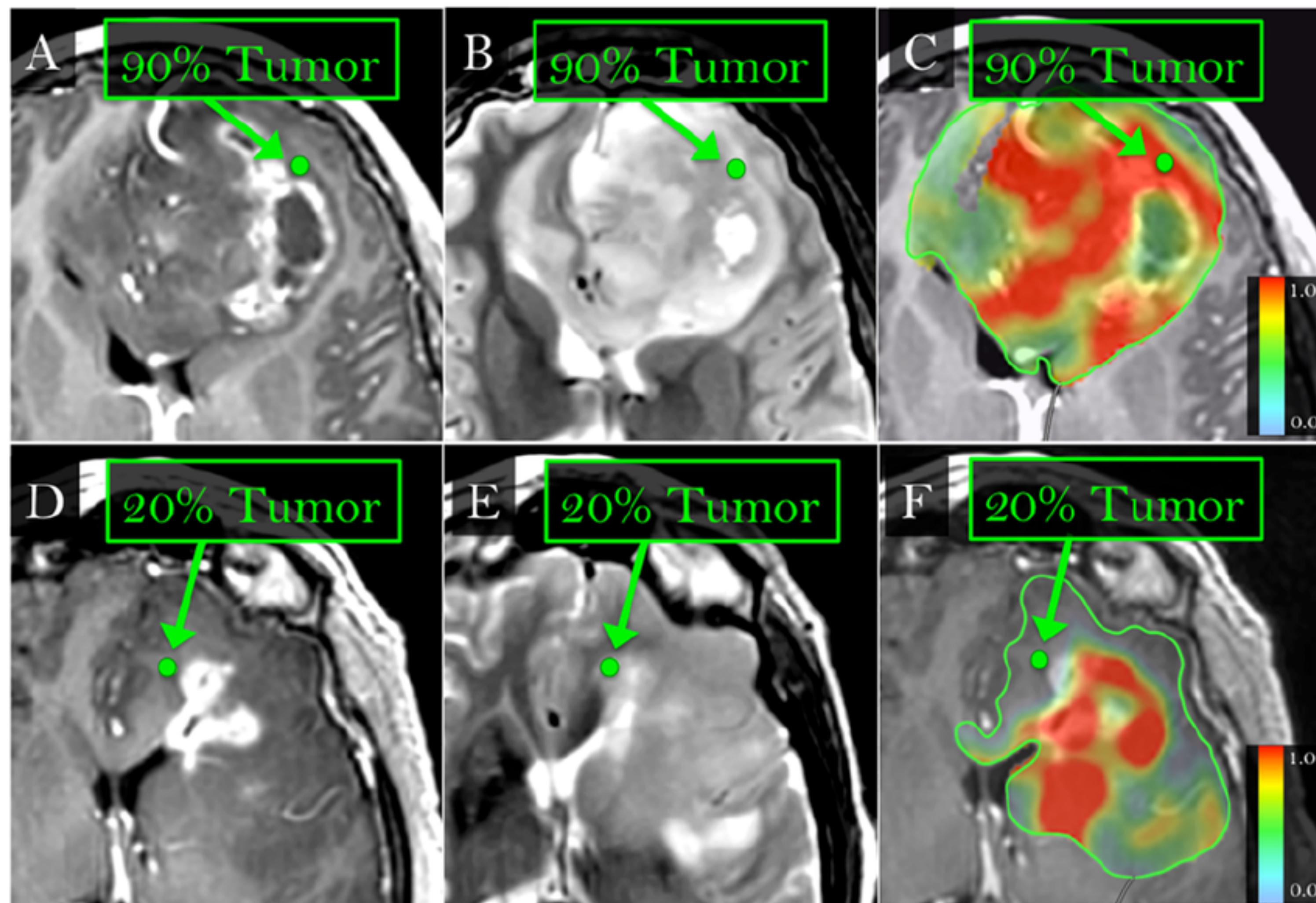
applicazioni

- studio delle malattie

- consulto e supporto a medici specialistici

  - interpretazione della cartella clinica

  - identificazione di aree tumorali

  - calcolo della diagnosi

- diagnosi in largo anticipo

- analisi dell'efficacia dei trattamenti

- selezione delle coorti

Vasopressor Intervention

Physiological Time Series

Predicting Mortality at Different Horizons
With Different Data Sources

"Understanding vasopressor intervention and weaning: Risk prediction in a public heterogeneous clinical time series database", M. Wu, M. Ghassemi, M. Feng, L. A. Celi, P. Szolovits, F. Doshi-Velez
"Predicting mortality over different time horizons: which data elements are needed?" B. A. Goldstein, M. J. Pencina, M. E. Montez-Rath, W. Winkelmayer

"Multi-Parametric MRI and Texture Analysis to Visualize Spatial Histologic Heterogeneity and Tumor Extent in Glioblastoma", L. Hu, et al.

players

- MIT

- Harvard

- Stanford

- Carnegie Mellon University

- University of Michigan

- University of Texas at Dallas

- NYU

- Google Health

- Microsoft Health

- Apple ResearchKit

- IBM Watson Health

- CliniComp Inc.

- Linguamatics

- Facebook (shhh...)

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Google

Google: 100,000 lives a year lost through fear of data-mining

The search firm's CEO and co-founder, Larry Page, estimates 100,000 lives could be saved next year if mining of healthcare data was acceptable

Alex Hern

🐦 @alexhern

Thursday 26 June 2014
08.30 EDT

🕐 This article is 2 years old

💬 117

📷 Google CEO Larry Page speaks during a press announcement at Google's headquarters in New York, in this file photo from May 21, 2012. Photograph: EDUARDO MUNOZ/REUTERS

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futuro

- non guideremo
- non coltiveremo la terra
- non pianificheremo
- impareremo diverse lingue per diletto, non per necessità
- non esploreremo lo spazio[1]

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Coverage of Disruptive Science and Technology

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Zymergen looks to marry synthetic biology, new materials and machine learning to create a million new genomes

darpa, DNA, future, materials, robotics, science, synthetic biology, technology

Dr. Zach Serber, co-founder of Zymergen, explains his company's efforts to marry synthetic biology, machine learning and materials science to endow microbes with new genetic programs for creating impossible materials with novel and valuable properties. He spoke at DARPA's "Wait, What? A Future Technology Forum" on Sept. 9, 2015.

Zymergen has a flexible platform to engineer a wide variety of industrially-relevant microbes and improve the economics of new and existing products made via industrial fermentation.

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8 comments

Next Big Future: DARPA extends surface submarine hunting drone tests
1 comment

Next Big Future: Superearth of 5.4 earth masses found around dwarf star 32 light years away and

Transportation

Does autopilot dull the skills of U.S. airline pilots?

The National Transportation Safety Board said the pilots of Asiana Airlines Flight 214 were confused by the plane's technology, which directly resulted in the 2013 crash as the plane landed in San Francisco. (Justin Sullivan/Getty Images)

By **Ashley Halsey III** January 13 ✉

Pilots are so used to using automation technology in the cockpit that experts are worried that some of them lack the skills to manually fly

planes.

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AI program able to predict human rights trials with 79 percent accuracy

by James Vincent | @jjvincent | Oct 24, 2016, 8:05am EDT

NOW TRENDING

Microsoft Surface Studio review: a beautiful invader of Apple's base

bene & male

- individuare persone
  scomparse dopo disastri
  naturali

- sorveglianza globale
  (Orwell-style)

male

bene & male

- migliorare la salute di milioni di cittadini

- discriminare i cittadini sulla base della loro condizione medica futura (assicurazioni sanitarie)

male

consigli ;)

- usate sempre buonsenso

- siate sempre scettici

- usate la tecnologia, non fatevi usare

grazie