From AI Bias to AI by Us

Leo Anthony Celi
Massachusetts Institute of Technology
Beth Israel Deaconess Medical Center
Harvard T.H. Chan School of Public Health

TECHNOLOGY

AI IS TAKING WATER FROM THE DESERT

New data centers are springing up every week. Can the Earth sustain them?

By Karen Hao

ARTIFICIAL INTELLIGENCE

Training a single AI model can emit as much carbon as five cars in their lifetimes

Deep learning has a terrible carbon footprint.

By Karen Hao

June 6, 2019

Review of International Political Economy ›
Volume 29, 2022 - Issue 3: The Hidden Costs of Global Supply Chain Solutions. Guest edited by Genevieve LeBaron and Jane Lister

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The Hidden Costs of Global Supply Chain Solutions

Is artificial intelligence greening global supply chains? Exposing the political economy of environmental costs

Peter Dauvergne

Pages 696-718 | Published online: 03 Sep 2020

The Human Factor in AI-Based Decision-Making

Facing identical AI inputs, individuals make entirely different choices based on their own decision-making styles.

Research

Electronic health record alerts for acute kidney injury: multicenter, randomized clinical trial

BMJ 2021 ; 372 doi: https://doi.org/10.1136/bmj.m4786 (Published 18 January 2021)
Cite this as: *BMJ* 2021;372:m4786

Opinion

The challenge of minimal risk in e-alert trials

F Perry Wilson, associate professor[1 2], *Melissa Martin*, research associate[1 2], *Yu Yamamoto*, statistician[1 2], *Caitlin Partridge*, data scientist[3], *Erica Moreira*, data scientist[3], *Tanima Arora*, postdoctoral researcher[1 2], *Aditya Biswas*, data scientist[1 2], *Harold Feldman*, professor[4], *Amit X Garg*, professor[5], *Jason H Greenberg*, assistant professor[2 6], *Monique Hinchcliff*, associate professor[7], *Stephen Latham*, professor[8], *Fan Li*, assistant professor[9], *Haiqun Lin*, professor[10], *Sherry G Mansour*, instructor[1 2], *Dennis G Moledina*, assistant professor[1 2], *Paul M Palevsky*, professor[11], *Chirag R Parikh*, professor[12], *Michael Simonov*, instructor[2], *Jeffrey Testani*, associate professor[13], *Ugochukwu Ugwuowo*, postdoctoral researcher[1 2]

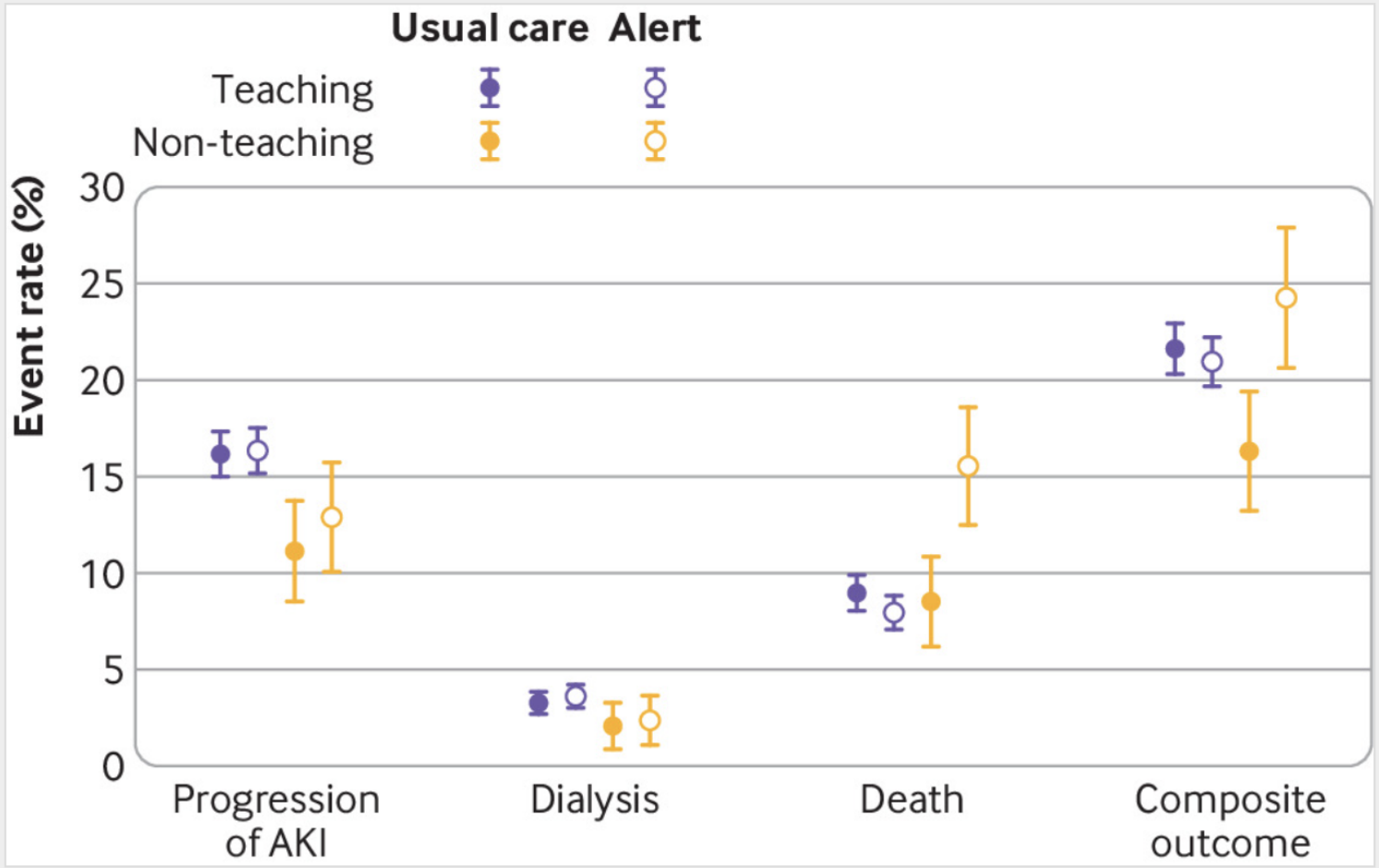


Fig 2

Primary and secondary outcome events, stratified by hospital type. Error bars are 95% confidence intervals of the observed proportion of events. AKI=acute kidney injury

Does AI Help or Hurt Human Radiologists' Performance? It Depends on the Doctor

New research shows radiologists and AI don't always work well together

By EKATERINA PESHEVA | March 19, 2024 | Research

nature medicine

Article | Open access | Published: 19 March 2024

Heterogeneity and predictors of the effects of AI assistance on radiologists

Feiyang Yu, Alex Moehring, Oishi Banerjee, Tobias Salz, Nikhil Agarwal & Pranav Rajpurkar ✉

Nature Medicine **30**, 837–849 (2024) | Cite this article

AJR American Journal of Roentgenology

Search American Journal of Roentgenology

ADVANCED SEARCH

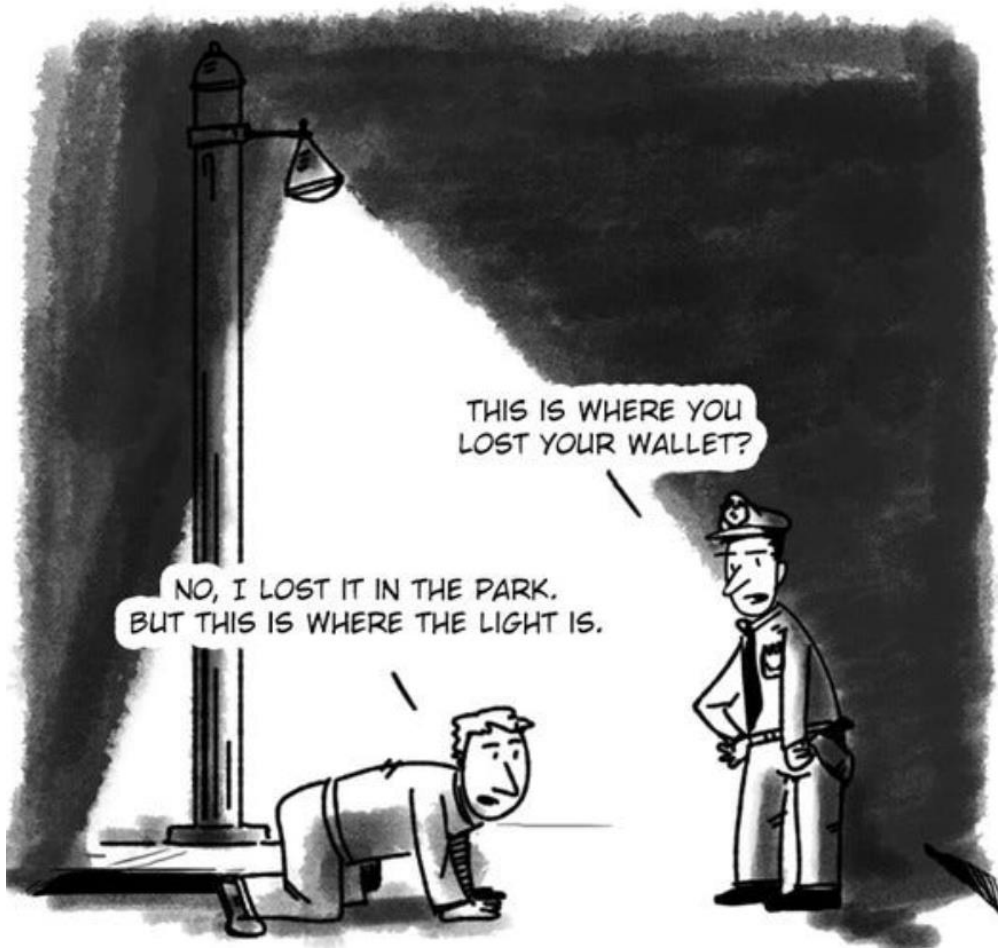
ARTICLES & ISSUES COLLECTIONS INFORMATION AUTHORS REVIEWERS MULTIMEDIA SECTIONS

Original Research | Neuroradiology/Head and Neck Imaging | September 4, 2024

Prospective Evaluation of Artificial Intelligence Triage of Intracranial Hemorrhage on Noncontrast Head CT Examinations

Authors: Cody H. Savage, MD, Manoj Tanwar, MD, Asser Abou Elkassem, MD, Adam Sturdivant, MPH, MS, Omar Hamki, BS, Houman Sotoudeh, MD, Gopi Sirineni, MD, Aparna Singhal, MD, Desmin Milner, MD, Jesse Jones, MD, Dirk Rehder, MD, Mei Li, PhD, Yufeng Li, PhD, Kevin Junck, PhD, Srini Tridandapani, MD, PhD, MBA, Steven A. Rothenberg, MD, and Andrew D. Smith, MD, PhD SHOW FEWER | AUTHOR INFO & AFFILIATIONS

The “Backstory” of the Data:
Social Patterning of the Data Generation Process



Critical Care Clinics
Available online 27 March 2023
In Press, Corrected Proof What's this?

Critical Bias in Critical Care Devices

Marie-Laure Charpignon MSc [a], Joseph Byers [b], Stephanie Cabral MD [c], Leo Anthony Celi MD, MSc, MPH [d e f], Chrystinne Fernandes PhD [d], Jack Gallifant [g], Mary E. Lough PhD, RN, CCNS, FCCM, FAHA, FCNS, FAAN [h], Donald Mlombwa [i j k], Lama Moukheiber MSc [l], Bradley Ashley Ong MD [m], Anupol Panitchote MD [r], An-Kwok Ian Wong MD, PhD [p], Lama Nazer PharmD, BCPS, FCCM [q]

Journal of Biomedical Informatics
Volume 153, May 2024, 104643

Special Communication

Variation in monitoring: Glucose measurement in the ICU as a case study to preempt spurious correlations

Khushboo Teotia [a 1], Yueran Jia [a 1], Naira Link Woite [b], Leo Anthony Celi [a b c], João Matos [a d e 2], Tristan Struja [a f 2]

The Lancet Digital Health
Available online 11 May 2022
In Press, Corrected Proof

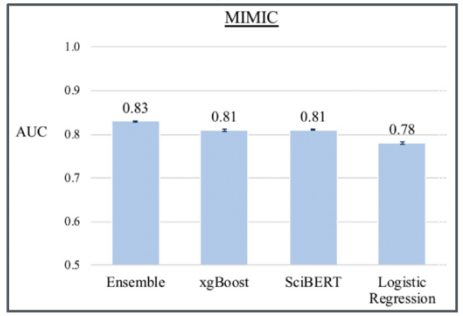
Articles

AI recognition of patient race in medical imaging: a modelling study

Judy Wawira Gichoya MD [a], Imon Banerjee PhD [c], Ananth Reddy Bhimireddy MS [a], John L Burns MS [d], Leo Anthony Celi MD [e, g], Li-Ching Chen BS [h], Ramon Correa BS [c], Natalie Dullerud MS [i], Marzyeh Ghassemi PhD [e, f], Shih-Cheng Huang [j], Po-Chih Kuo PhD [h], Matthew P Lungren MD [j], Lyle J Palmer PhD [k, l], Brandon J Price MD [n] Saptarshi Purkayastha PhD [d], Ayis T Pyrros MD [n], Lauren Oakden-Rayner MD [k], Chima Okechukwu MS [o] … Haoran Zhang MS [i]

Nursing Progress Note

NEURO: sedated with propofol gtt 85mcg/kg
RESP: remains intubated with IMV 12/750/5peep/5psv/40%fio2
GU: inc large amt foul smelling urine foley placed with UO ~50cc/hr, **dialysis** to be initiated at 6pm
SKIN: sacral decub w-d dsg changes **wound red** beefy, small amt bloody drainage, heel dsg w-d dsg changed no drainage
ACCESS: left EJ, right groin introducer, left rad aline
PLAN: **dialysis** this eve, wean extubate tomorrow, titrate up po meds for **hypertension**



… for difficult reasons.

Word	% Black Patients	% White Patients
very difficult	4.94%	3.87%
difficult to understand	4.06%	3.19%
difficult to assess	3.99%	3.46%
is difficult	3.53%	2.36%
and difficult	3.32%	2.90%
very difficult to	3.28%	2.27%
difficult stick	2.40%	1.09%

An artificial intelligence system predicted the sex of people just by analyzing their eyes

It is a model based on deep learning that was trained with photos of retinas. Applications in the field of medicine

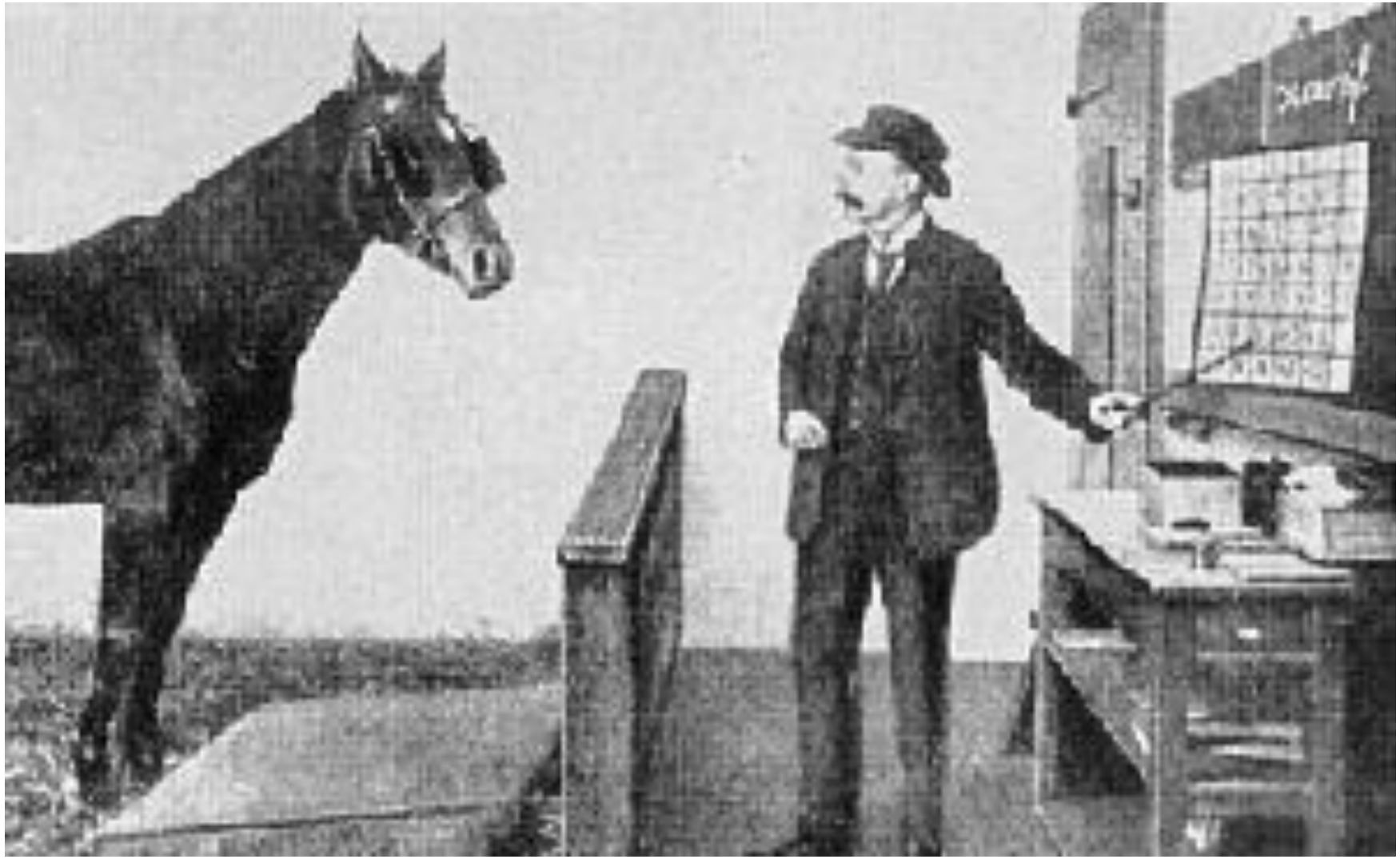
Newsroom Infobae
March 15, 2022

ORIGINAL ARTICLE DATA SCIENCE | VOLUME 19, ISSUE 1, P184-191, JANUARY 01, 2022

Detecting Racial/Ethnic Health Disparities Using Deep Learning From Frontal Chest Radiography

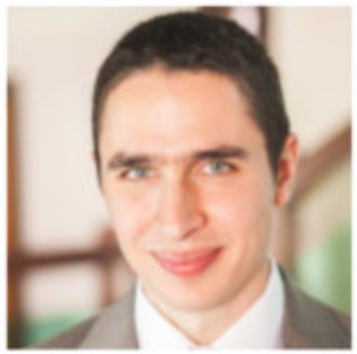
Ayis Pyrros, MD • Jorge Mario Rodríguez-Fernández, MD • Stephen M. Borstelmann, MD • Judy Wawira Gichoya, MD • Jeanne M. Horowitz, MD • Brian Fornelli, MS • Nasir Siddiqui, MD • Yury Velichko, PhD • Oluwasanmi Koyejo, PhD • William Galanter, MD, PhD • Show less

DOI: https://doi.org/10.1016/j.jacr.2021.09.010 • Check for updates



"Why Should I Trust You?" Explaining the Predictions of Any Classifier

Marco Tulio Ribeiro



Sameer Singh

UCIrvine

UNIVERSITY of WASHINGTON

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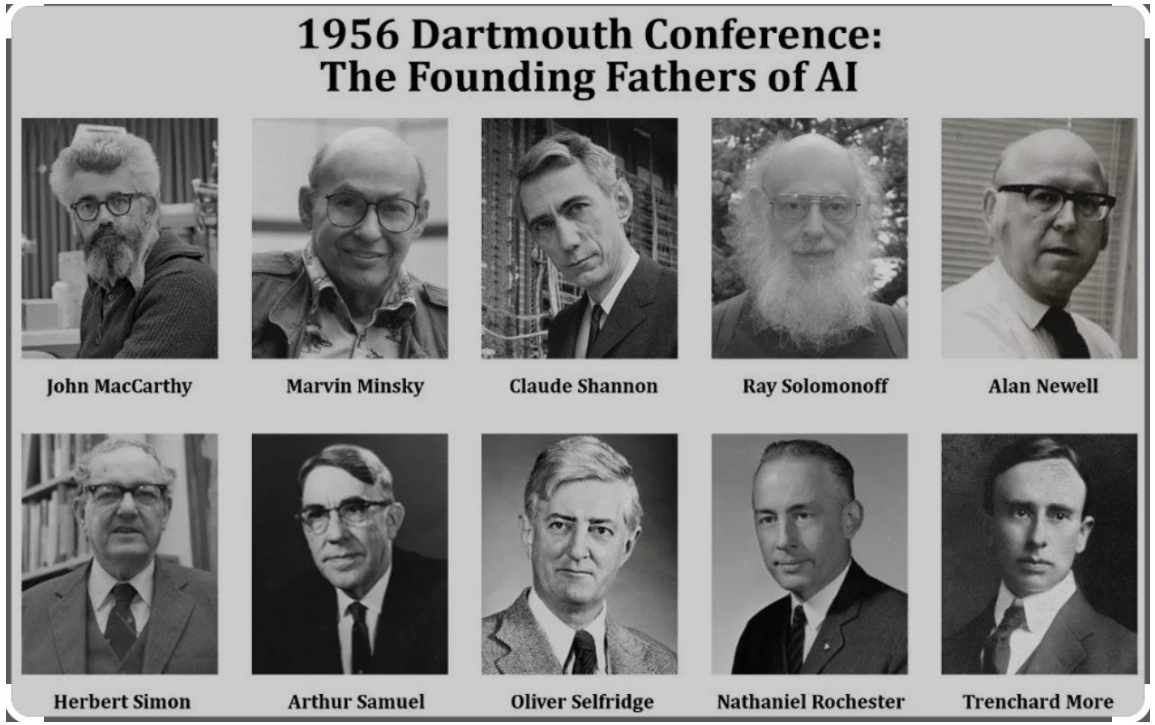
66 years after the 1956 Dartmouth Conference