AI&Data Analysis

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Practical Informations

- This course is new, please give me feedbacks
- Even if Lab Reports etc will be done on Ametice, **you will need a gmail account** : to be able to use the google colab platform for the Labs and Exercice Session (**colab.research.google.com**)
- Basic knowledge of python and of numpy arrays is better, as of Jupyter Notebooks (and if you know pandas it’s great too)
- All materials for Lab Session will be available on github at this address : https://github.com/GFuhr/M2PFA_AI

Ressources

- Andrew Ng Stanford Online Classes : https://cs229.stanford.edu/
- The Little Book of Deep Learning by F. Fleuret : https://fleuret.org/francois/lbdl.html
- Deep Learning, by I. Goodfellow : https://www.deeplearningbook.org/
- Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems by A. Géron

AI can be promising

Original Research
Breast Imaging

AsymMirai: Interpretable Mammography-based Deep Learning Model for 1–5-year Breast Cancer Risk Prediction

Jon Donnelly, Luke Moffett, Alina Jade Barnett, Hari Trivedi, Fides Schwartz, Joseph Lo*, Cynthia Rudin*

* J.L. and C.R. are co-senior authors.

Author Affiliations

Published Online: Mar 19 2024 | https://doi.org/10.1148/radiol.232780

See also the editorial by Freitas in this issue.

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Abstract

Article | Open access | Published: 28 April 2024

Early automated detection system for skin cancer diagnosis using artificial intelligent techniques

Nourelhoda M. Mahmoud & Ahmed M. Soliman

Scientific Reports **14**, Article number: 9749 (2024) | Cite this article

4351 Accesses | **3** Citations | **6** Altmetric | Metrics

Abstract

Recently, skin cancer is one of the spread and dangerous cancers around the world. Early detection of skin cancer can reduce mortality. Traditional methods for skin cancer detection are painful, time-consuming, expensive, and may cause the disease to spread out. Dermoscopy is used for noninvasive diagnosis of skin cancer. Artificial Intelligence (AI) plays a vital role in diseases' diagnosis especially in biomedical engineering field. The automated detection systems based on AI reduce the complications in the traditional methods and can improve

But at the same time it will be confused by that...

Some Models example

Improving Pre-trained Language Models

•February 2023

•DOI:

•10.1007/978-3-031-23190-2_3

•In book: Foundation Models for Natural Language Processing

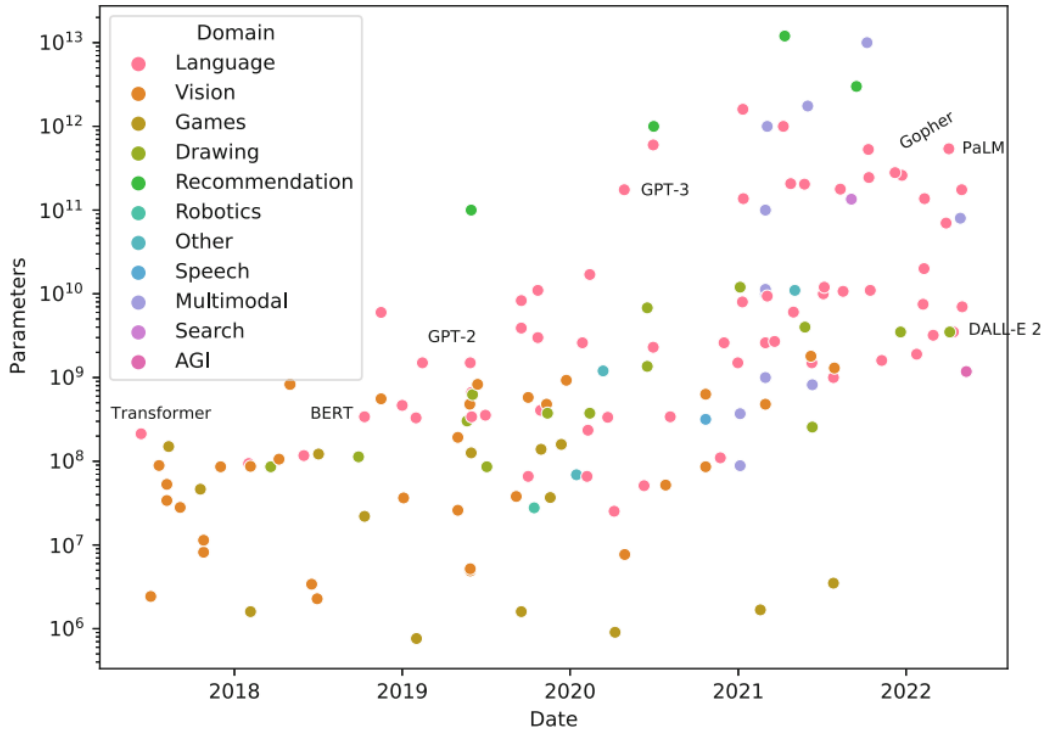
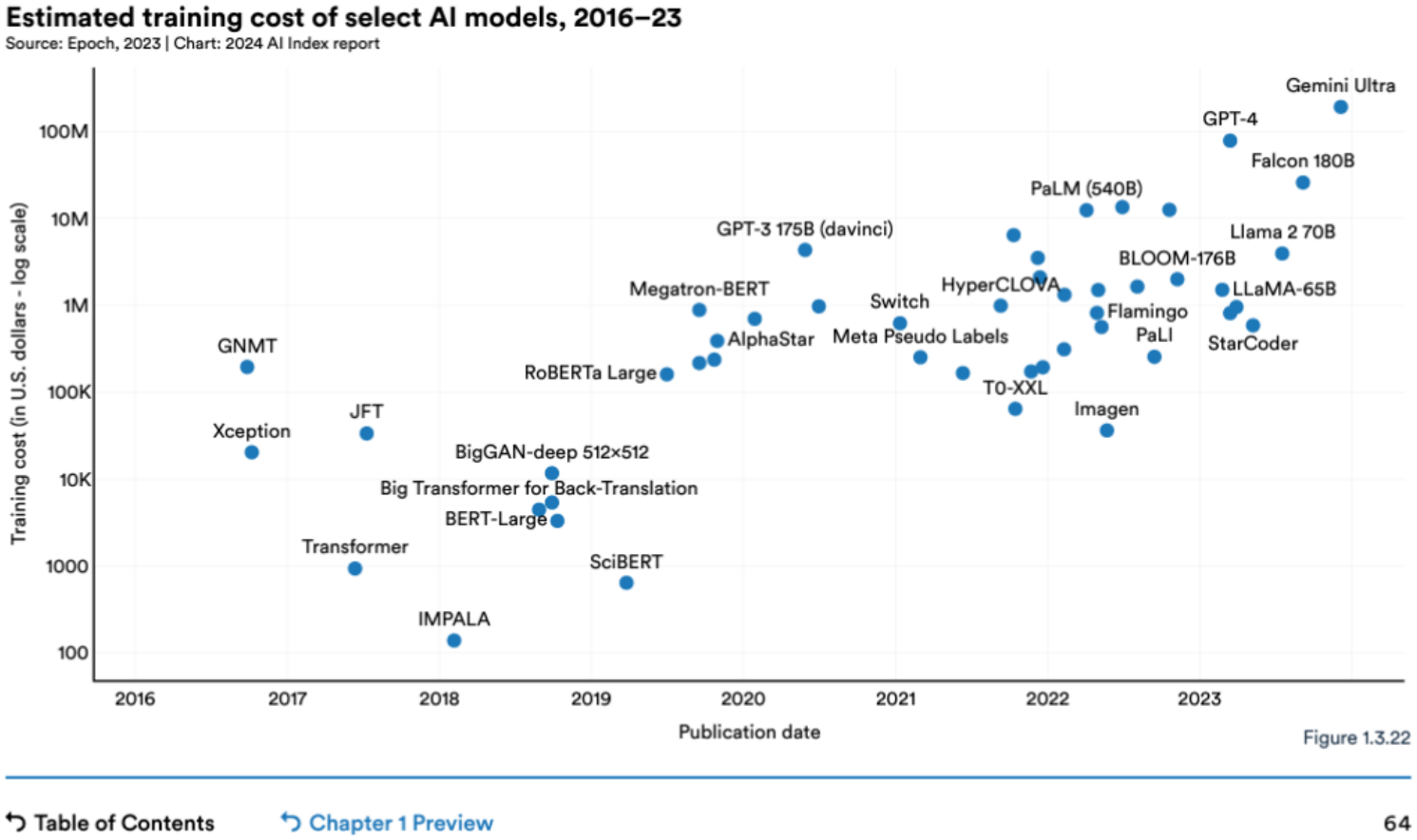


Fig. 3.20 Number of parameters for Deep Learning Models since 2017 [188]. Note that the parameter scale is logarithmic. The number of parameters roughly increased from 100M up to 1000B

Some NN training cost…



Source : Artificial Intelligence Index Report 2024

Some NN Architectures