

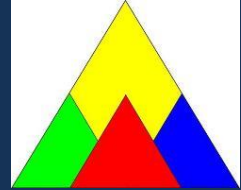
CÁC TIẾN BỘ HIỆN NAY VỀ CHẨN ĐOÁN HÌNH ẢNH Y KHOA

BS. Phan Thanh Hải

GD. MEDIC

Chủ tịch Hội Hành nghề Y tư nhân TPHCM

CHẨN ĐOÁN HÌNH ẢNH Y KHOA



1. Xquang

1890 Wilhelm Conrad Rontgen (Ronghen)

2. MSCT

1972 Godfrey Hounsfield

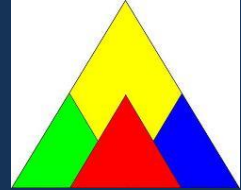
3. MRI

1946 Felix Bloch

4. Siêu Âm

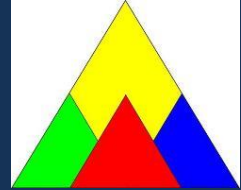
1880 Pierre Curie

CHẨN ĐOÁN HÌNH ẢNH Y KHOA XRAY



CHẨN ĐOÁN HÌNH ẢNH Y KHOA

MSCT



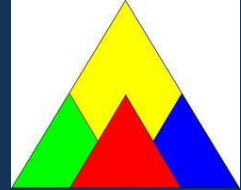
History - Invention of CT

- Sir Godfrey Hounsfield (English Electrical Engineer), built first CT 1971, scanned head.
- Allan McLeod Cormack - math framework.
- Nobel prize for both in 1979 for the invention of CT.
- 1975 – first full body scanner.



CHẨN ĐOÁN HÌNH ẢNH Y KHOA

MSCT



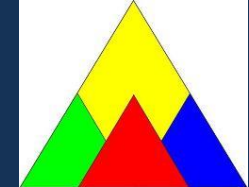
CT: The beginning

- CT founded in 1970 by Sir Godfrey Hounsfield
- first applications were in neuroradiology.



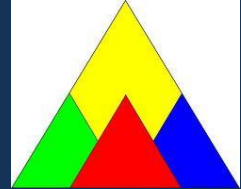
LỊCH SỬ TẠI VIỆT NAM

MSCT



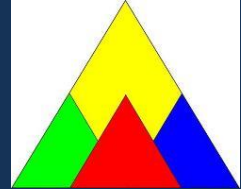
LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

MSCT

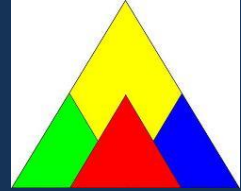


LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

MRI

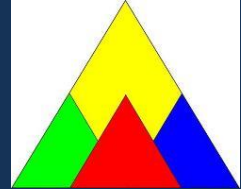


LỊCH SỬ TẠI VIỆT NAM (TP. HCM) MRI

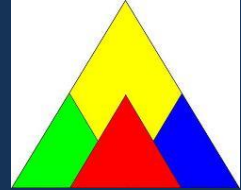


LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

DSA



LỊCH SỬ TẠI VIỆT NAM (TP. HCM) DTC



THE Saigon Times

APRIL 30, 1999 VIETNAM'S ENGLISH - LANGUAGE BUSINESS

VN sees first successful coronary angiogram

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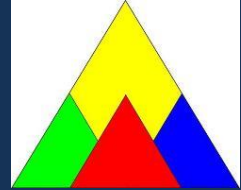
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First coronary angiogram brings hope for heart patients
(Photo: Hai Dong)

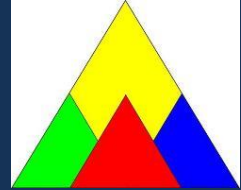
LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

Siêu Âm



LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

Siêu Âm



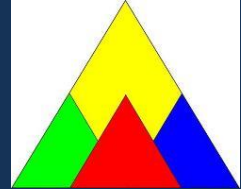
HOẠT ĐỘNG HỘI THẢO thường xuyên hàng năm



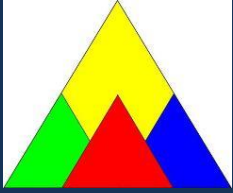
Hội thảo Siêu âm năm 1991 tại TT SIÊU ÂM MEDIC

LỊCH SỬ TẠI VIỆT NAM (TP. HCM)

Siêu Âm

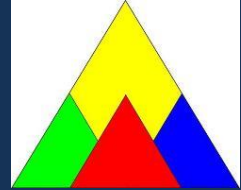


XRAY



- XQ – CR
- DR (Digital Radiology)
- DR – AI
- Xray 3D – EOS

XRAY



Stanford ML Group



Input

Chest X-Ray Image

CheXNet

121-layer CNN

Output

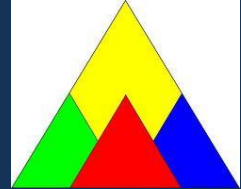
Pneumonia Positive (85%)



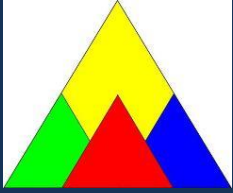
Our model, CheXNet, is a 121-layer convolutional neural network that inputs a chest X-ray image and outputs the probability of pneumonia along with a heatmap localizing the areas of the image most indicative of pneumonia.

We train CheXNet on the recently released ChestX-ray14 dataset, which contains 112,120 frontal-view chest X-ray images individually labeled with up to 14 different thoracic diseases, including pneumonia. We use dense connections and batch normalization to make the optimization of such a deep network tractable.

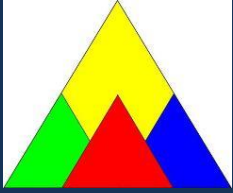
XRAY



XRAY

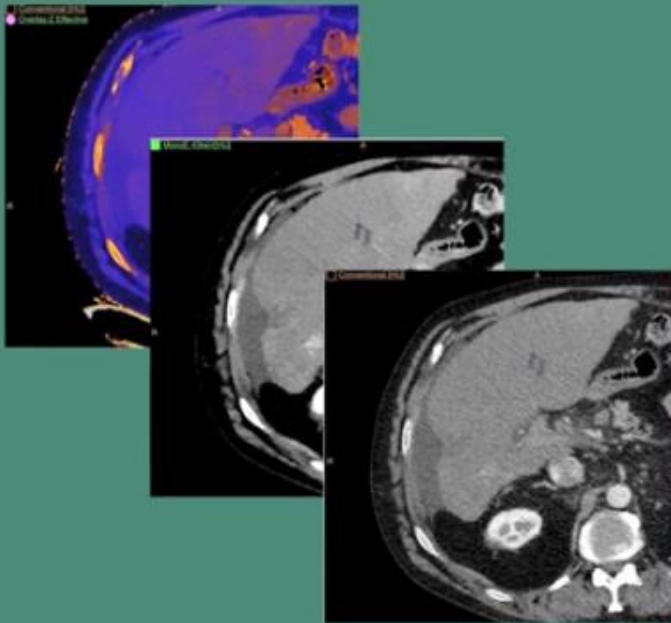
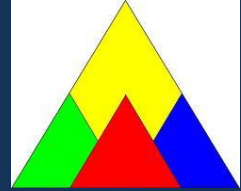


MSCT



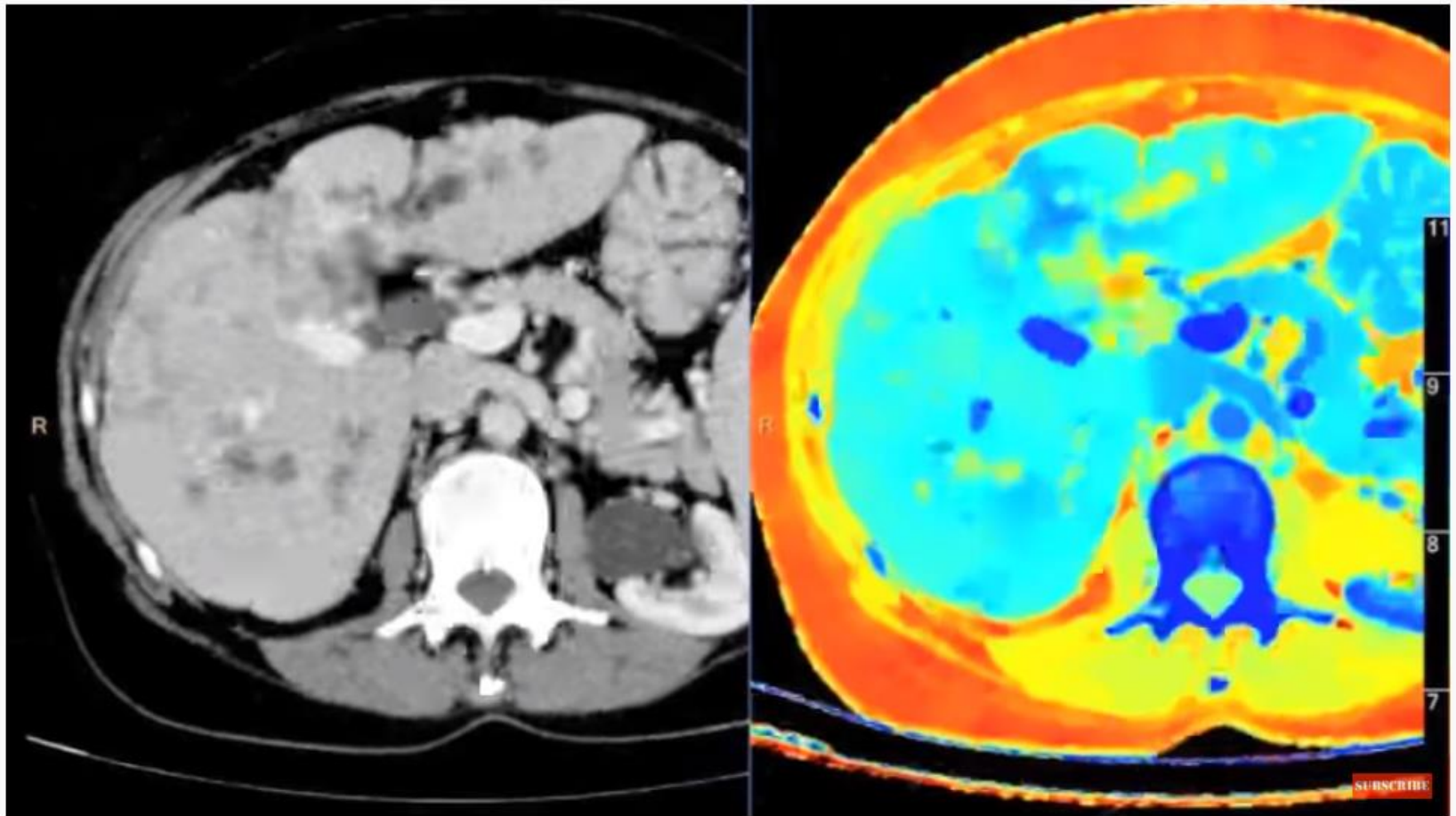
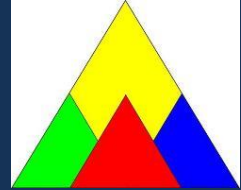
- 1st CT
- VN (Medic CT) 1995
- MSCT 640
- MSCT DECT _ SCT

MSCT



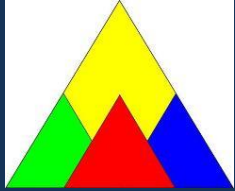
spectral results
100% of the time

MSCT



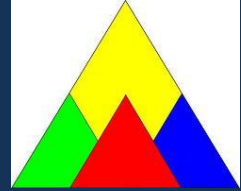
Philips IQon Spectral CT

MRI



- 1st MRI Medic 1996
 - MRI 1.5T, 3T
 - MRI _ PET
 - MRI _ US
- FUSION

MRI

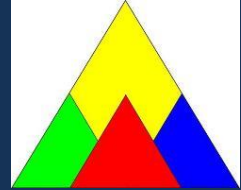


Why the 3 Tesla MRI is the Best Scanner for Diagnostic Imaging

Monday, 12 September 2016 3T MRI 57419 Hits 4 Comments



MRI

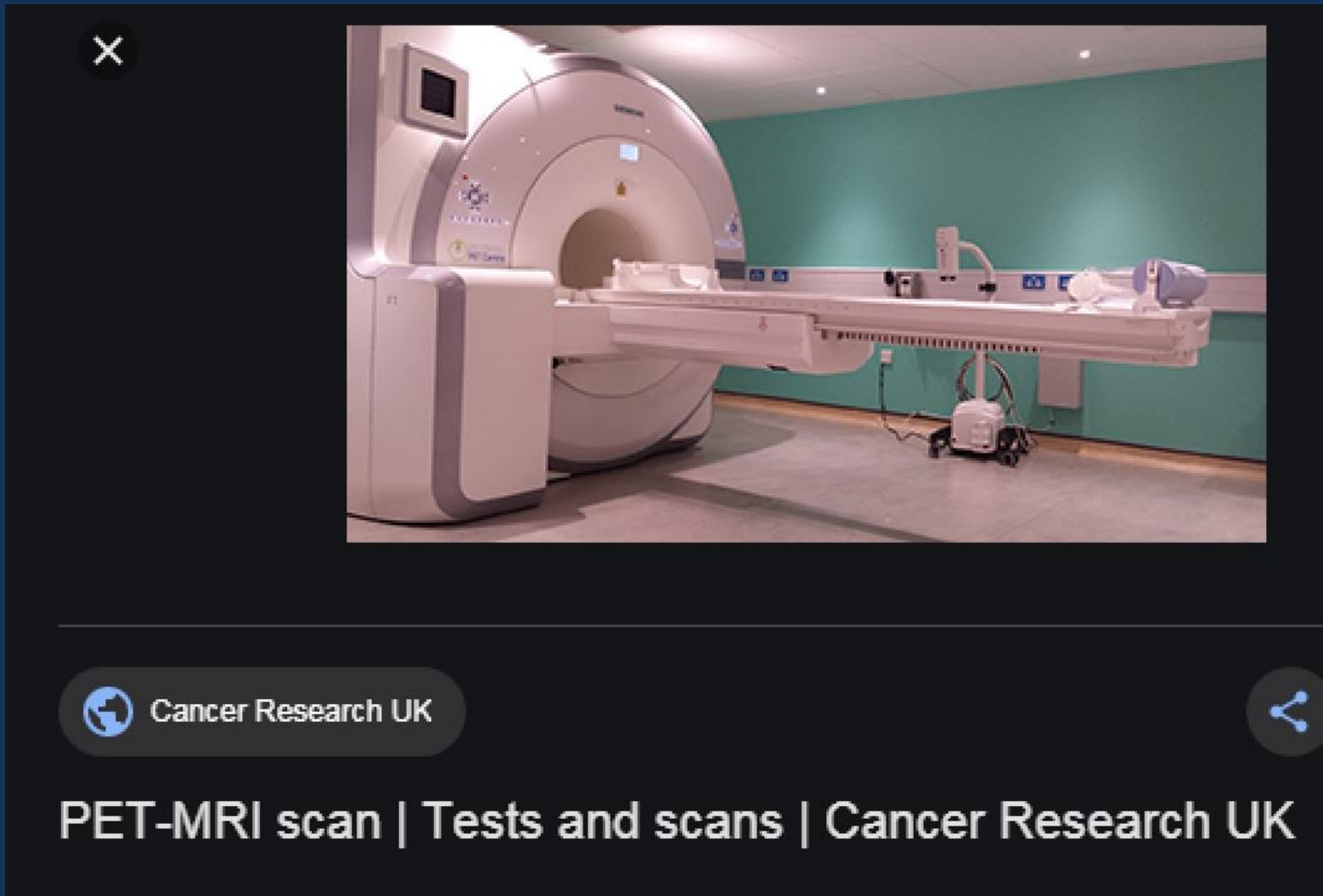
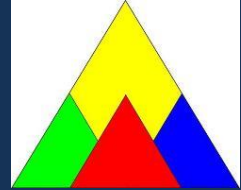


Mayo Clinic 7-Tesla MRI scanner installation a high-flying feat

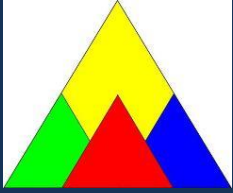
14,275 views • Published on Dec 4, 2017

👍 75 💬 3 ⬇️ 720 ➡️ SHARE ≡ SAVE ⋮

MRI

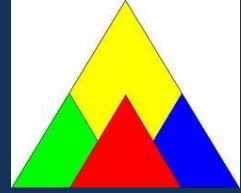


SIÊU ÂM (Ultrasound)



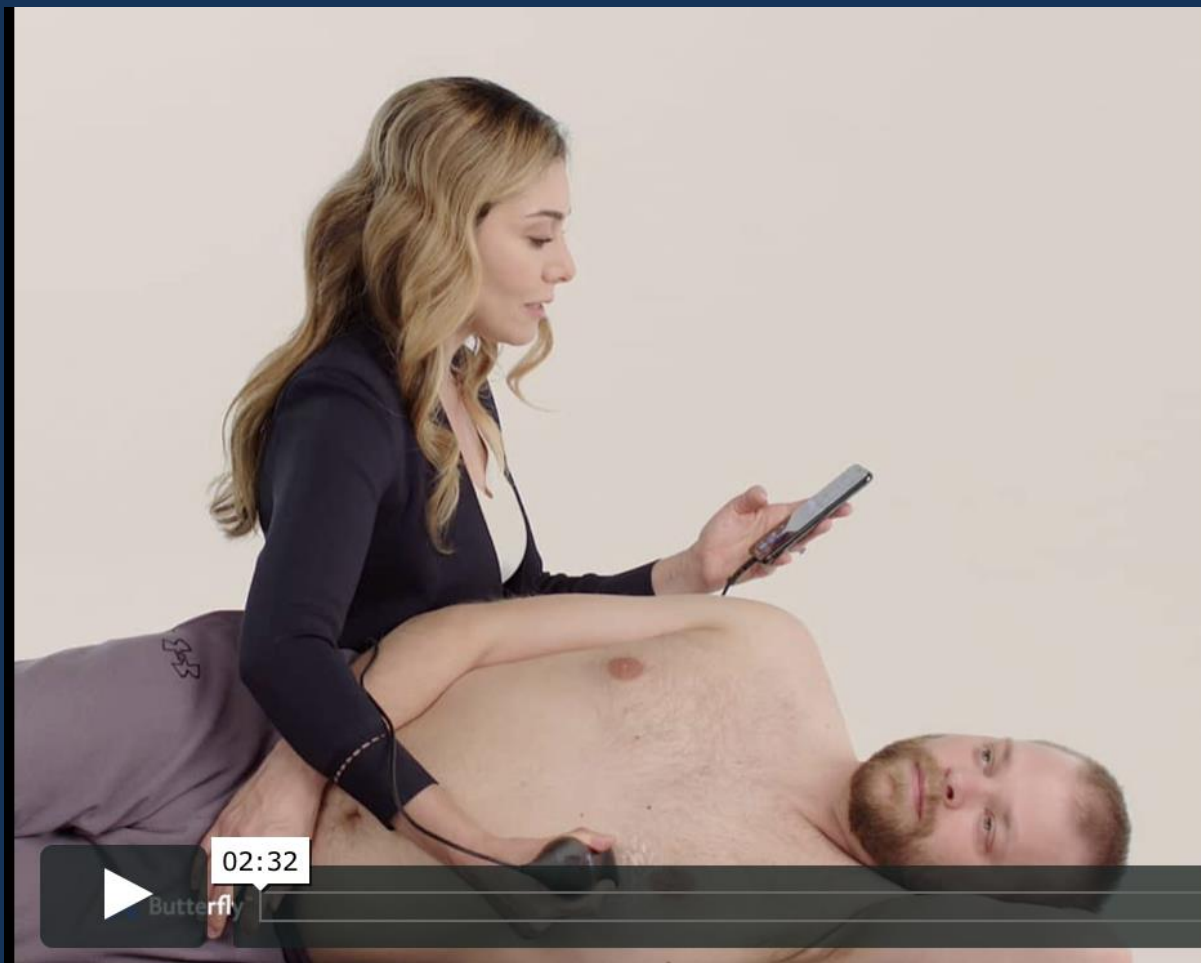
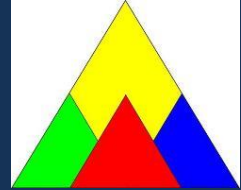
- Việt Nam 1996 Meckler (HCM)
- Siêu Âm Màu (Colour US)
- Siêu Âm 2D, 3D, 4D
- Siêu Âm Đàn Hồi (Elasto)
- Siêu Âm POCUS

SIÊU ÂM CẦM TAY (Pocket US)

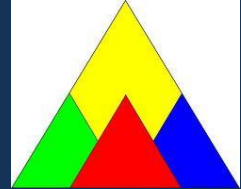


- Đầu Dò CMUT
- Máy Butterfly ID
- Nối Kết Đám Mây (iCloud)

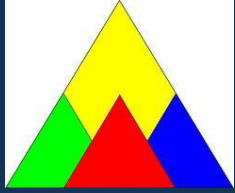
SIÊU ÂM CẦM TAY (Pocket US)



SIÊU ÂM CẦM TAY (Pocket US)



TƯƠNG LAI CỦA Chẩn Đoán Hình Ảnh Y Khoa



- Công nghệ kết hợp Fusion
- Trí tuệ nhân tạo (AI)