ENDIMENSION TECHNOLOGY

- AI Platform Technology for Medical Diagnosis
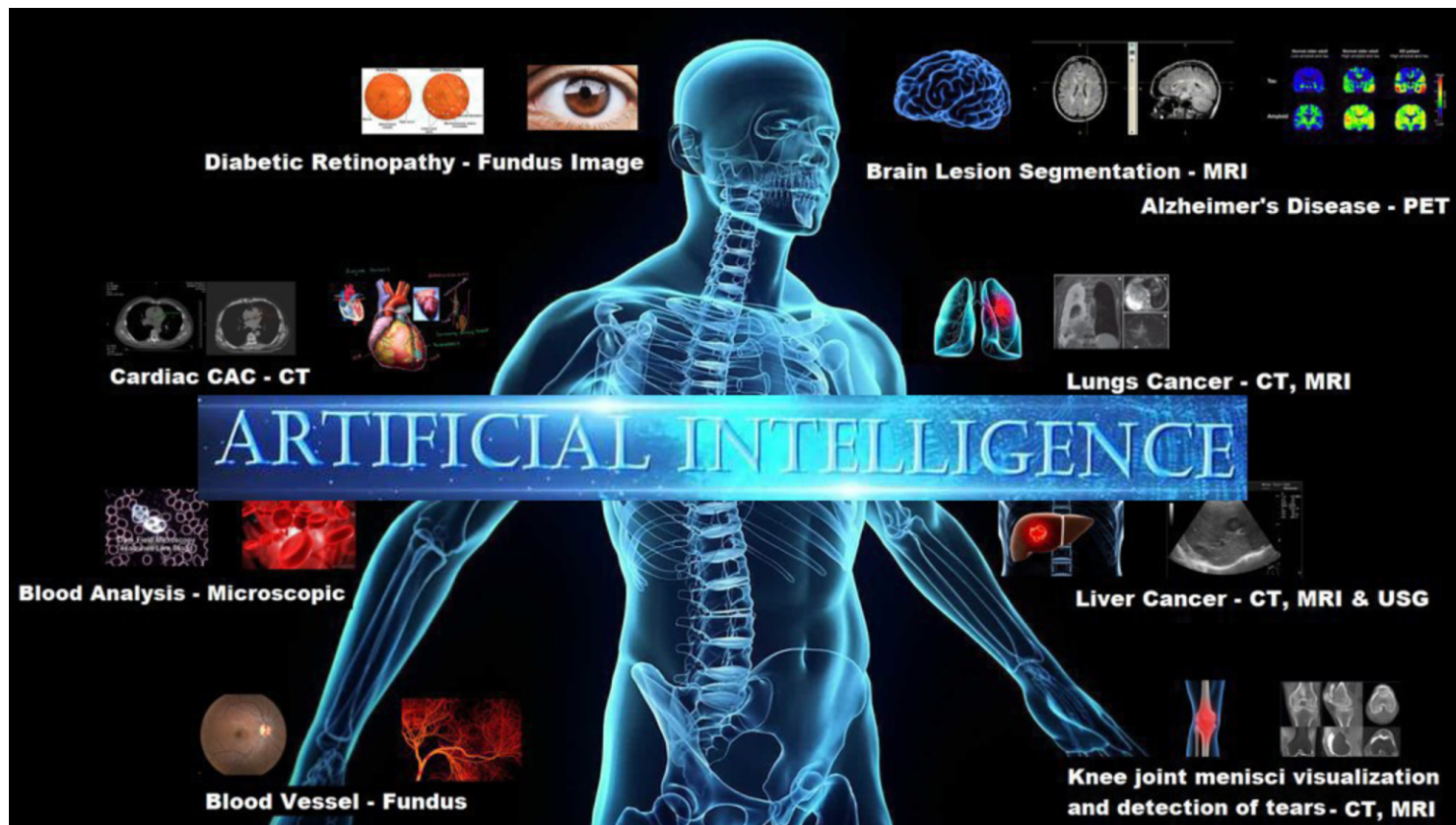
http://www.endimension.com/

Incubated at

IIT Bombay

SINE

Business Incubator

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What are we about?

Using Artificial Intelligence to automatically detect diseases from Medical Scans

Earlier Work - AI for Lung Cancer Detection
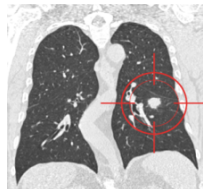
LUNA16 (Lung Nodule Analysis)

Stood **1st** among 360 Indian teams

Statistics
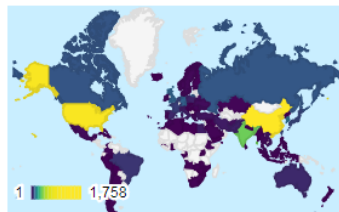
Number of users: 6957

Ref: luna16.grand-challenge/Results

OUR SOLUTION

INTEL RESEARCH

Canon
Visia™ CT Lung CAD
FDA Approved Product

Grand-Challenges   All Challenges   Sign in / Register

LUng Nodule Analysis

Data	Rank	Team	Date	Score	Description
Evaluation	1	PAtech (PA_tech)	2 January 2018	0.951	description
	2	JianPeiCAD (weiyixie)	22 December 2017	0.950	description
Results	3	LUNA16FONOVACAD (zxp774747)	28 November 2017	0.947	description
	4	iFLYTEK-MIG (yinbaocai)	17 August 2017	0.941	description
Download	5	zhongliu_xie (zhongliu.xie)	29 September 2017	0.922	description
	6	iDST-VC (chenjx1005)	13 July 2017	0.897	description
Submit	7	qfpxfd (qfpxfd)	27 May 2017	0.891	description
	8	CASED (CASED)	15 June 2017	0.887	description
Forum	9	3DCNN_NDET (lishaxue3)	22 June 2017	0.882	description
	10	Aidence (mjharte)	7 June 2017	0.871	description
Tutorial	11	junxuan20170516 (chenix1005)	30 May 2017	0.865	description
Join	12	MEDICAI (bharadwaj)	22 July 2017	0.862	description
	13	Ethan20161221 (ethanhwang2012)	23 December 2016	0.856	description
	14	resnet (QiDou)	21 February 2017	0.839	description
	15	CCELargeCubeCnn (Intel_wuhui)	30 Sept 2017	0.833	description
	16	ZNET (gzuidhof)	30 June 2016	0.811	description
	17	MOT_M5Lv1 (elope769)	18 October 2016	0.742	description
	18	VisiaCTLung (jacobsc)	1 April 2016	0.715	description
	19	etrocad (jefvdmb2)	7 April 2016	0.676	description
	20	M5LCADThreshold0.3 (atraverso)	5 April 2016	0.608	description
	21	lance (lancesy)	10 August 2017	0.543	description

AI for COVID-19 RadioDiagnosis

AI Software to automatically detect COVID-19 abnormalities from Chest Imaging

Advantages

1. Can be deployed at Healthcare Centres at all levels
   a. Primary
   b. Secondary
   c. Tertiary
   d. Radiology Diagnostic centres

2. Low Cost Solution

3. Instant Diagnosis

4. Easily accessible for patients

5. Easy to deploy and scale

6. Reduced Community Transmission
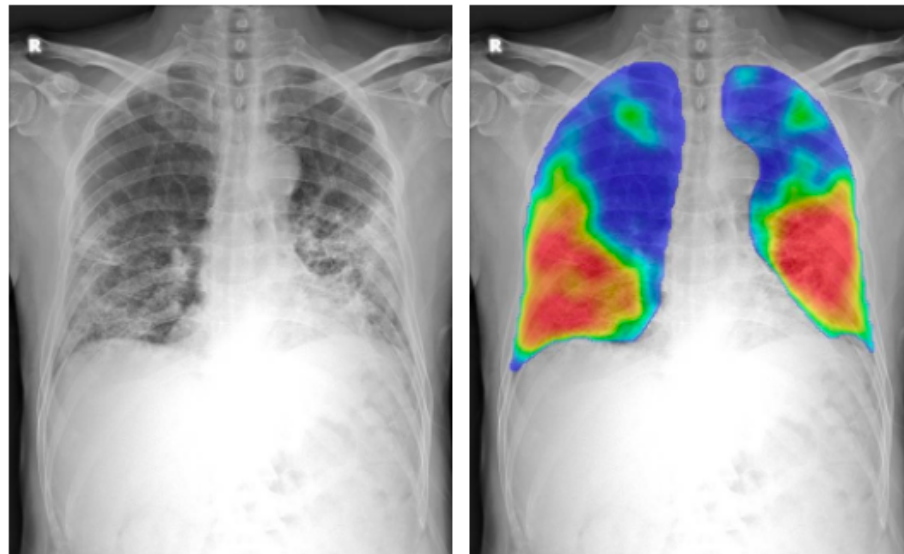
AI Predicted COVID-19 Heat Map

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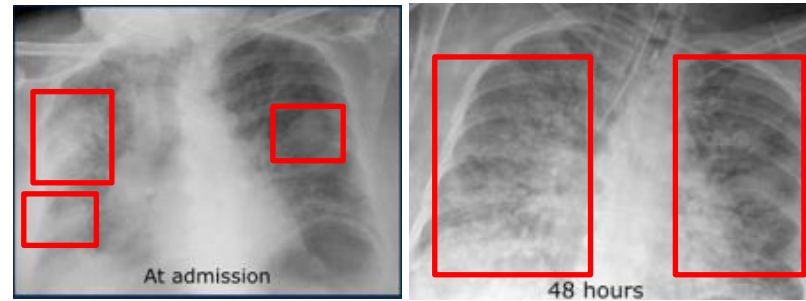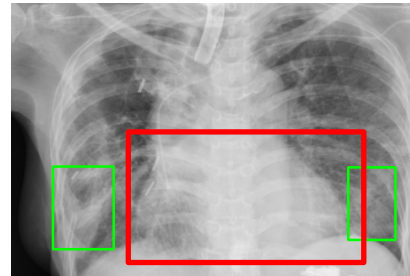# AI for COVID-19 RadioDiagnosis

1. Triage Patients

2. Monitor Patient Condition

3. Incidental Findings

Current Status – Ready to Deploy

1. AI validated on publicly available datasets

Dataset : 30727 X rays (covid, non-covid, normal)

Sensitivity	Specificity	Accuracy
0.909	0.939	0.936

2. Published Research with Tata Memorial Hospital

"Novel Artificial Intelligence Algorithm to Automate the Detection of COVID-19 Abnormalities from Chest CT Images"

Submitted to Indian Journal of Radiology and Imaging

Sensitivity	Specificity	Accuracy
0.92	0.995	0.972

3. LOI from Tata Memorial Hospital

3. The algorithm will be suitably packaged by Endimension Technology to deploy, perform and integrate within the radiology workflow as an independent stand-alone application or where possible integrate with existing software.

टाटा स्मारक केन्द्र
TATA MEMORIAL CENTRE
टाटा स्मारक अस्पताल
TATA MEMORIAL HOSPITAL
प.ऊ.वि. भारत सरकार का एक सहायता अनुदान प्राप्त संस्थान
A GRANT-IN-AID INSTITUTION OF THE DEPARTMENT OF ATOMIC ENERGY, GOVT. OF INDIA

AAI NO **707412**

Date: 14th April 2020

TO WHOMSOEVER IT MAY CONCERN

Endimension Technology Private Limited and Tata Memorial Centre (TMC) have jointly collaborated to develop an "**Artificial Intelligence (AI) algorithm for automatic detection of COVID-19 abnormalities from radiology images**".

As a part of this project,

1. TMC and Endimension Technology will jointly evaluate the AI algorithms and publish the results together towards a peer reviewed publication.

2. Once the algorithms reach the desired end point, TMC will perform clinical trials using the algorithm and provide validation certificate to Endimension Technology.

3. The algorithm will be suitably packaged by Endimension Technology to deploy, perform and integrate within the radiology workflow as an independent stand-alone application or where possible integrate with existing software.

Dr. Abhishek Mahajan
MRes, Kings College, London,
MD, Fellowship In Cancer Imaging
Professor,
Dept of Radiodiagnosis & Imaging
Tata Memorial Hospital
Mumbai, Maharashtra, 400 012

Dr. E. Borges Marg, Parel
Mumbai - 400 012, India.
Phone: +91-22-2417 7000
Fax: +91-22-2414 6937

E-mail: medimail@tmc.emet.in
Website: http://tmc.gov.in

Cancer is curable, if detected early.

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WHO Guide on 'Use of Chest Imaging in COVID-19'

Patients likely to benefit :

- Live in small homes
- Overcrowded households or densely-populated settings, where isolation is very difficult to implement
- Live in communities with people at high risk such as retirement homes or dormitories

| Mild Symptoms	Moderate to Severe Symptoms	Hospitalized	Symptomatic & Suspected
Hospital Admission **vs** **Home Discharge**	**Regular Ward** **vs** **Intensive Care Unit (ICU)**	**Therapeutic Management**	**RT-PCR testing is not available** **RT-PCR testing is available, but results are delayed** **RT-PCR testing is negative, but with high clinical suspicion of COVID-19**

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AI Risk Assessment for COVID-19
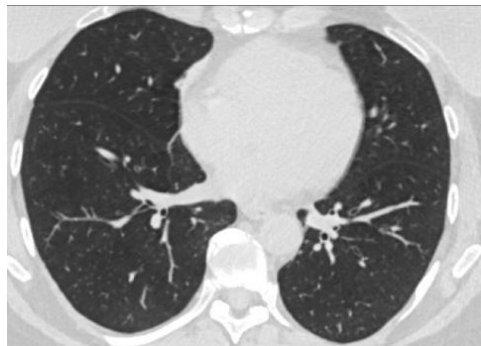
CO-RADS 1. Normal chest CT
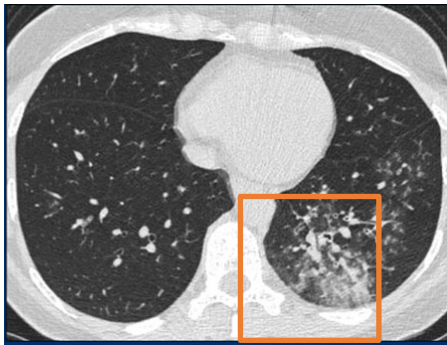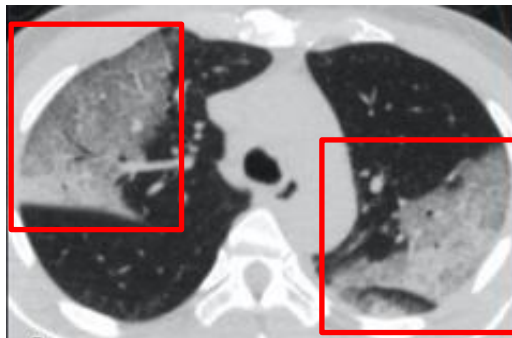
CO-RADS 2. Non COVID-19 infection
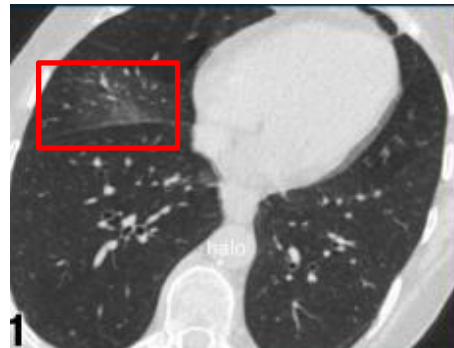
CO-RADS 3. Indeterminate
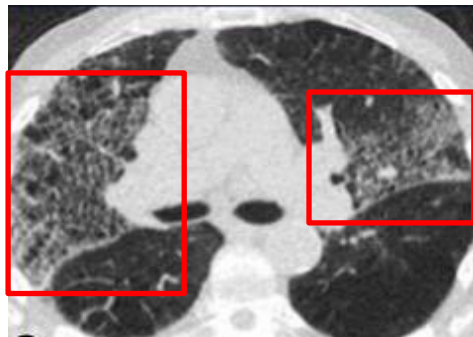
CO-RADS 4. High Suspicion

CO-RADS 5. Typical COVID-19

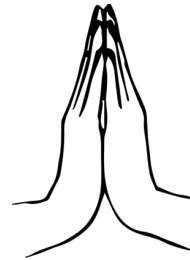E N DIMENSION

Our Supporters

"Let us work together for

better diagnosis

&

improved efficiency"

Website: www.endimension.com

Mail Id: bharadwaj_kss@endimension.com
          apparao_mlv@endimension.com

Contact: +91 9967161926
          +91 8898612916

THANK YOU

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