AI - next Billion $ Opportunity?

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What is AI?

Technologies that mimic human perception!

Rule Based vs Pattern Based

What is the big deal?

Grey Area Decision Making

Why AI?

Healthcare is choked by less number of doctors and beds

India has a patient to doctor ratio of 1: 1681 as compared to US (1:400). India needs 3 million doctors additionally by 2034.

India has 1 bed for every 1000 patients, as compared to Japan, which has 1 for every 35 people.

Education can't scale as we don't have teachers

Close to more than 1,00,000 schools in India have only 1 teacher

84 mn kids in India don't go to schools at all, 7.8 million school going kids work today

Millions are unbanked

Close to 223 mn in India are unbanked

Interest rates are as high as 5% per month for lack of credit history for poor

Energy is expensive and usage inefficient

In India cost of electricity is same as in US, despite the purchasing power parity (15 cents)
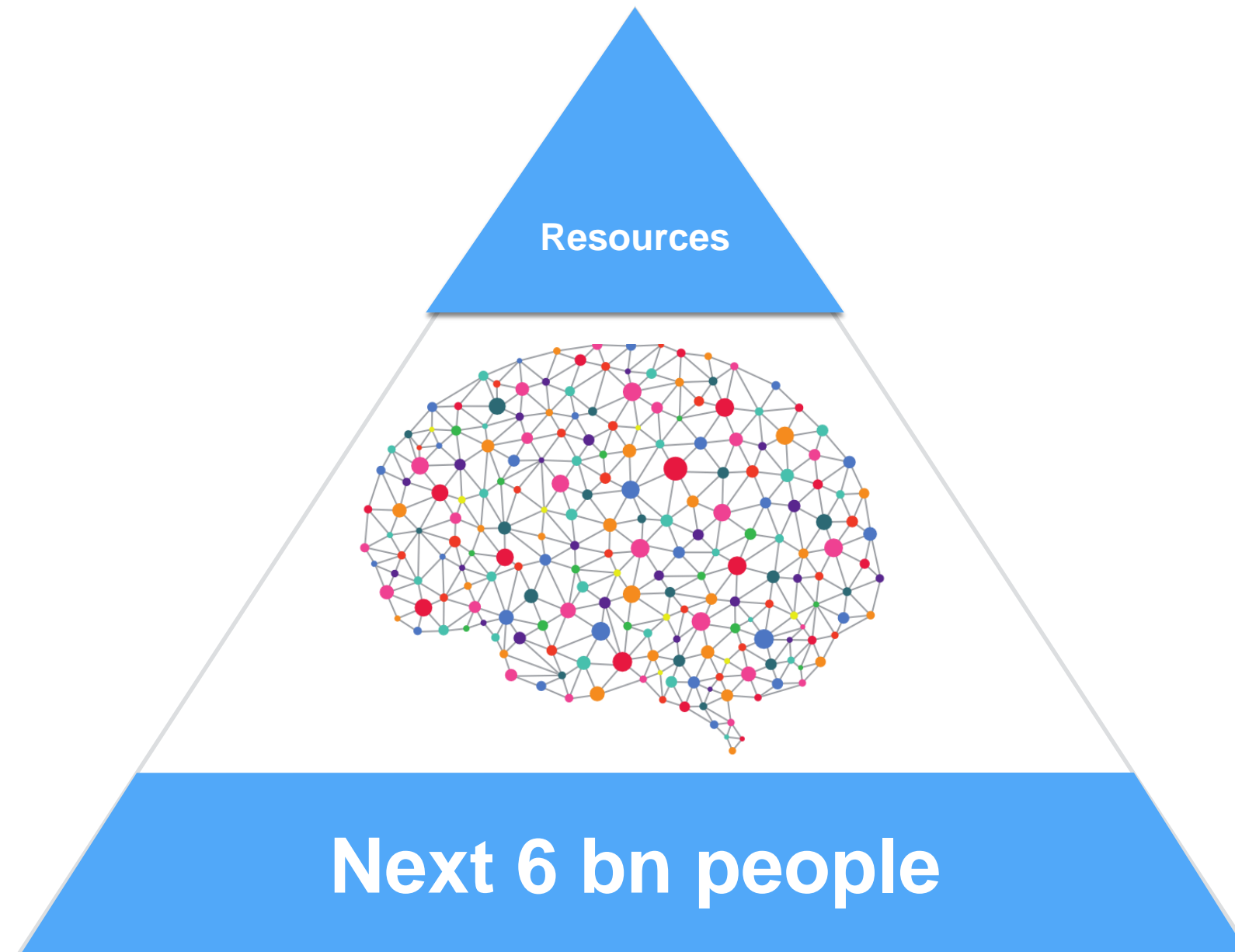
Pic Credit : Jorge Royan

Transportation & logistics are broken

Highest average speed in Bangalore is 18km/h

In India 57% of goods by volume is transported by road, which is the costliest and most in efficient

AI can help us scale scarce human talent & resources to next 6bn

Why everyone is excited now?

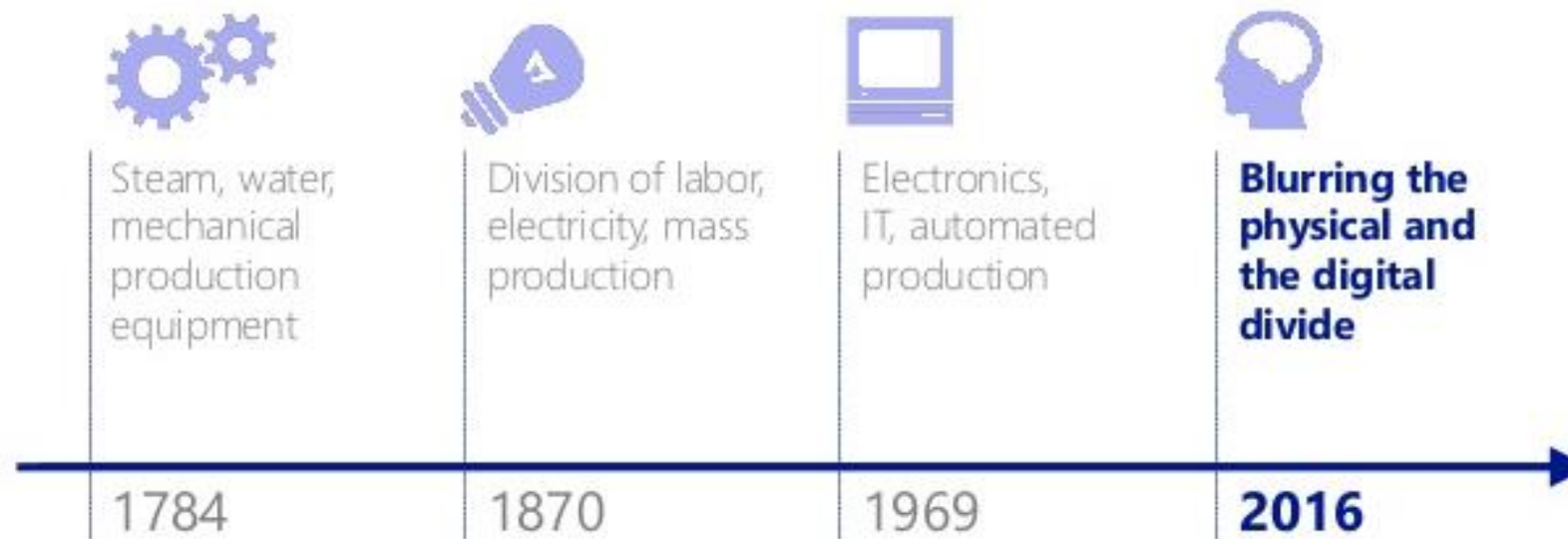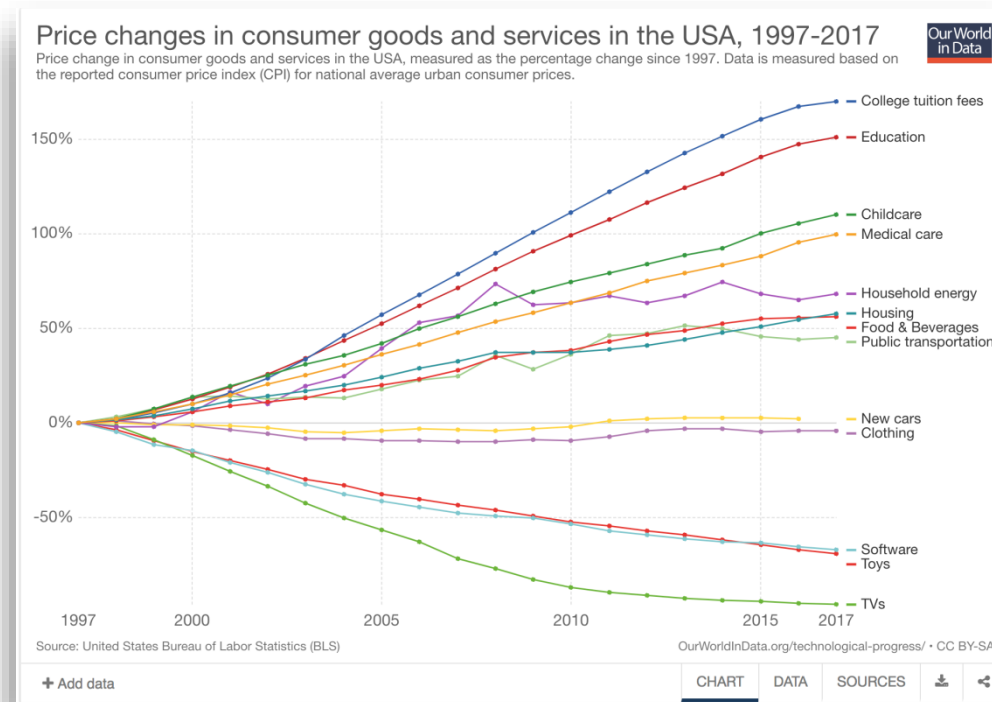|	
Computer Vision	Computer vision is becoming accurate and in realtime
Natural Language	Natural language as understood by machines has become human like
Sensors	Sensors are everywhere, creating data for machines to sense and act

Powered by new advances like "Deep learning", AI is about allowing human like capability (sense, think and act) to machines

Steam, water, mechanical production equipment

Division of labor, electricity, mass production

Electronics, IT, automated production

Blurring the physical and the digital divide

1784   1870   1969   **2016**

Industrial Revolution 4.0

AI is the big wave that will bring about the 4th Industrial revolution and disrupt all sectors : World Economic Forum

Impact of AI

Technology Products are deflationary whereas Human Services are Inflationary

Price changes in consumer goods and services in the USA, 1997-2017
Our World in Data

… But human enabled essential services are becoming more expensive

More Indians have mobile phones, TVs than access to healthcare, sanitation, education

AI is to Services what Industrial Revolution was to Products

- AI Productises Services

- AI Democratises Services

- AI Scales Services

- AI Augments Services

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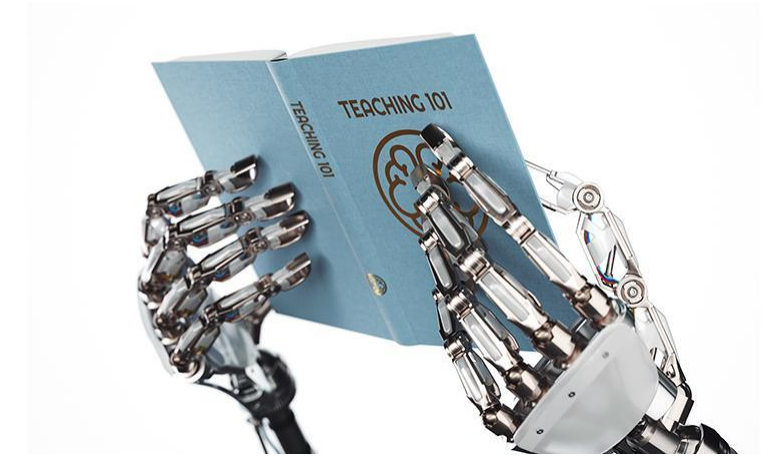# Trends / Markets covered by AI

Largest Market Segments for AI

AI to add $1 Tn to the India's GDP and add 1.5% to the GDP Growth Rate*
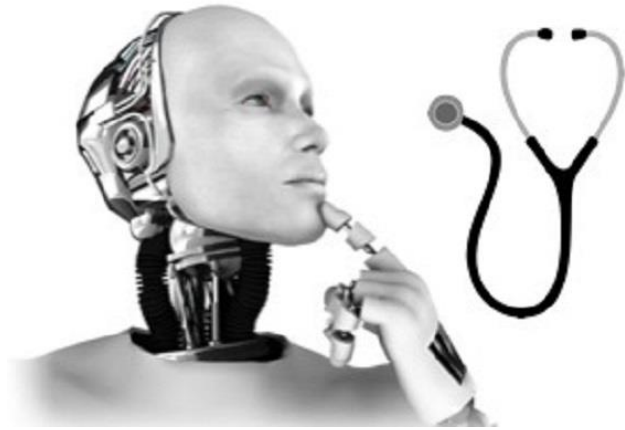
Healthcare - $ 100 bn

BFSI - $ 250 bn

Education - $ 50 bn

Enterprise - $ 200 bn

Logistics - $ 200 bn

* source : Accenture

AI in Healthcare

AI in Fintech

CREDIT SCORING / DIRECT LENDING

Use AI for robust credit scoring and lending applications.

ASSISTANTS / PERSONAL FINANCE

AI chat bot and mobile app assistant applications to monitor personal finances.

QUANTITATIVE & ASSET MANAGEMENT

Employ AI algorithmic trading and investment strategies or tools.

REGULATORY, COMPLIANCE, & FRAUD DETECTION

Use AI to detect fraudulent and abnormal financial behavior, and/or use AI to improve general regulatory compliance matters and workflows.
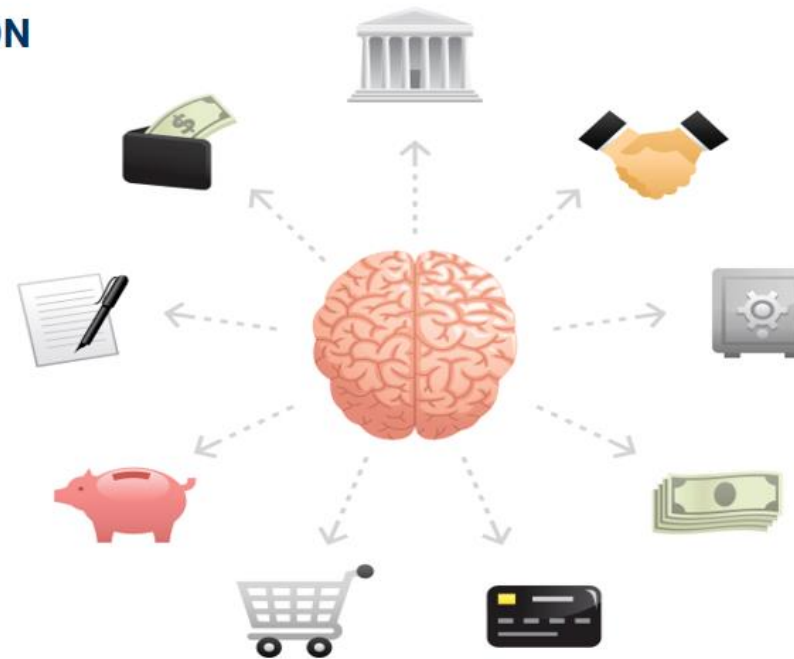
INSURANCE

Use AI to quote and insure.

MARKET RESEARCH / SENTIMENT ANALYIS

Use AI to efficiently research and measure sentiment.

GENERAL PURPOSE / PREDICTIVE ANALYTICS

Use AI for general purpose semantic and natural language applications as well as broadly applied predictive analytics.

BUSINESS FINANCE & EXPENSE REPORTING

Use AI to improve basic business accounting, including expense reporting.

DEBT COLLECTION

Use AI to improve creditor collection of outstanding debt through personalized and automated communication.

AI in Commerce

REAL-TIME PRODUCT TARGETING

Machine learning to present online shoppers with personalized product recommendations.

VISUAL SEARCH

Image recognition platforms to help e-commerce websites let visitors search by image, instead of text, and match relevant products to specific images.

CONVERSATIONAL COMMERCE

Chat software and chatbots focused on helping shoppers make purchases in a conversational text format using natural language processing.

SIZING & STYLING

AI-powered software to help retailers integrate improved product sizing and outfit-building tools into their websites.

INTEGRATED ONLINE & IN-STORE ANALYTICS

Digital and physical store analytics to understand customers better.

REAL-TIME PRICING & INCENTIVES

Machine learning to adjust pricing, sale options, rewards, and coupons in real time to try to push hesitant shoppers toward conversion.

LOCATION-BASED MARKETING & ANALYTICS

Digital and physical store analytics, while also integrating beacon technology to track shoppers' locations.

NATURAL LANGUAGE SEARCH

Chat software and chatbots help shoppers make purchases in a conversational text format using natural language processing.

IN-STORE VISUAL MONITORING

AI-powered software that analyzes photo and visual content of store shelves to help brands track how products are stocked and promoted in real time.

PREDICTIVE MERCHANDISING

Big data analysis to optimize purchasing, allocation, and product assortment.

MULTICHANNEL MARKETING

Using AI to create targeted marketing campaigns across desktop, mobile, email, and other digital channels. Inclusion limited to startups focused specifically on e-commerce.

CBINSIGHTS

"Some real examples"

SigTuple: AI driven Medical Diagnostic at Scale

cellphone **camera** attached to **microscopes**, images are captured and sent to cloud

By leveraging deep learning on the images, **faster** and **cheaper** (5x) and **more accurate** diagnostics can be made at scale

Founders come from data science lab of Amex, having built **enterprise scale solutions** earlier on deep learning

Locus : Applying Machine Learning to Logistics

NEW ORDER
+3 MIN DETOUR

They are building **refinement** layer on top of google maps, to make accurate maps suited to logistics planning

Replacing some of the homegrown solutions at **Big Basket, Urban Ladder**

Founders come from machine learning group at Amazon, having worked on **enterprise scale solutions**

PICKUP DONE
2 MIN AGO

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Niramai: Non-Invasive Breast Cancer Screening Solution

Mammography is not effective in younger woman and can lead to **higher cancer rates** with **frequent exposure**

Non intrusive, privacy sensitive **thermography** solution, capable of detecting early malignant cases with 90%+ sensitivity

All woman team, with co-founders having background in machine learning, imaging with granted IP

Why India is interesting?

India can be the model for AI for next 6bn

Data Availability
435mn Smartphones by 2019. Mobile generates 4x more data than web. Data needed for training AI is cheap and accessible in India.

Global Talent Hub
Data science units by global leaders (Amazon, GE, Google, Microsoft, IBM, HP, Xerox) is creating big data science talent pool

Young Adopter population
By 2020, avg age in India is going to be 29, which is tech savvy and early adopter of technology.

Model for next 6bn
While India could be a large economy by itself, it also serves as a model for countries in SE Asia, Middle East & Africa as well or so called next 6bn.

J AI   HIND*

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Thanks to Prof Shivaram from IIT Mumbai for the phrase