

# Where Data Stands?

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Important quotes on Data

Entertainment

Image Processing

Food & Beverages

Music/Noise

# Data

- ▶ Elon Musk -
  - ▶ If you go back a few hundred years, what we take for granted today would seem like magic - being able to talk to people over long distances, to transmit images, flying, accessing vast amounts of data like an oracle. These are all things that would have been considered magic a few hundred years ago.
- ▶ Tim O'Reilly -

We're entering a new world in which data may be more important than software.
- ▶ Daniel Keys Moran -
  - ▶ You can have data without information, but you cannot have information without data.
- ▶ Colin Powell -
  - ▶ Experts often possess more data than judgment.

- ▶ Arthur Conan Doyle -
  - ▶ It is a capital mistake to theorize before one has data.
- ▶ Fred Hoyle -
  - I don't see the logic of rejecting data just because they seem incredible.
- ▶ Charles Babbage -
  - Errors using inadequate data are much less than those using no data at all.

# Kepler Mission

Watch this videos

- ▶ [Kepler 22b](#)
- ▶ [Kepler](#)
- ▶ [Earth like planets in Space](#)
- ▶ [For full video](#)

# Kepler Mission - Data Analysis

- ▶ Data analysis on kepler data
- ▶ Exo-planet community

What is the most important business?

## ► Eyes



- ▶ Eyes - Entertainment
- ▶ Tongue

- ▶ Eyes - Entertainment
- ▶ Tongue - Food & Beverages
- ▶ Ears

- ▶ Eyes - Entertainment
- ▶ Tongue - Food & Beverages
- ▶ Ears - Music
- ▶ Nose

- ▶ Eyes - Entertainment
- ▶ Tongue - Food & Beverages
- ▶ Ears - Music
- ▶ Nose - Aroma/Deodorants
- ▶ Skin

- ▶ Eyes - Entertainment
- ▶ Tongue - Food & Beverages
- ▶ Ears - Music
- ▶ Nose - Aroma/Deodorants
- ▶ Skin - Massage

# Steven Spielberg - Minority Report



Director *Steven Spielberg* invited fifteen experts to think about technologies that would be developed by 2054, the setting of the film

Remember the data interface from *Minority Report*? Well, it's real, *John Underkoffler* invented it — as a point-and-touch interface called *g-speak* — and it's about to change the way we interact with data.

[http://www.ted.com/talks/john\\_underkoffler\\_drive\\_3d\\_data\\_with\\_a\\_gesture?language=en](http://www.ted.com/talks/john_underkoffler_drive_3d_data_with_a_gesture?language=en)



In 1994, director *James Cameron* wrote an 80-page treatment for Avatar, drawing inspiration from adventure novels and science fictions.

- ▶ From January to April 2006, Cameron worked on the script and developed a culture for the film's aliens, the *Na'vi*.
- ▶ Their language was created by *Dr. Paul Frommer*, a linguist at USC. The *Na'vi* language has a lexicon of about 1000 words, with some 30 added by Cameron.
- ▶ The tongue's phonemes include ejective consonants (such as the “*kx*” in “*skxawng*”) that are found in the *Amharic* language of *Ethiopia*, and the initial *ng* that Cameron may have taken from New Zealand *Māori*.
- ▶ Actress *Sigourney Weaver* and the film's set designers met with *Jodie S. Holt*, professor of plant physiology at University of California, Riverside, to learn about the methods used by botanists to study and sample plants, and to discuss ways to explain the communication between Pandora's organisms depicted in the film.
- ▶ From 2005 to 2007, Cameron worked with a handful of designers, including famed fantasy illustrator *Wayne Barlowe*



# Data Visualization - Atlas of Universe



*Carter Emmart* uses astronomy and computational modeling to create scientifically accurate, three-dimensional tours of our universe.

[http://www.ted.com/talks/carter\\_emmart\\_demos\\_a\\_3d\\_atlas\\_of\\_the\\_universe?language=en](http://www.ted.com/talks/carter_emmart_demos_a_3d_atlas_of_the_universe?language=en)

## Data Visualization - Brain mapping



*JoAnn Kuchera-Morin* demos the AlloSphere, a new way to see, hear and interpret scientific data. Dive into the brain, feel electron spin, hear the music of the elements ... and detect previously unseen patterns that could lead to new discoveries.

[http://www.ted.com/talks/joann\\_kuchera\\_morin\\_tours\\_the\\_allosphere?language=en](http://www.ted.com/talks/joann_kuchera_morin_tours_the_allosphere?language=en)

# Image Processing - Apollo mission

<https://www.youtube.com/watch?v=HsRRDYyAZPs>

# Image processing

- ▶ Introduction video
- ▶ A blog on *ripa*
- ▶ Open Computer Vision (**OpenCV**)

# Image processing - Real life applications

## Traffic Monitoring

- ▶ Vehicle counting.
- ▶ Vehicle tracking
- ▶ Vehicle Classification
- ▶ Velocity estimation

# Image processing & Data analysis

- ▶ R package **ripa**.
- ▶ For raster images
  - ▶ `pixmap`
  - ▶ **raster**
  - ▶ Have you heard about GIS (**Analyzing spatial data sets through R**)

# Mc Donald's case



- ▶ Watch 1975 commercial of McDonald <https://www.youtube.com/watch?v=dK2qBbDn5W0>

- ▶ Started by a pair of brothers, Dick and Mac McDonald, in Southern California by the proposal of *Ray Kroc*.
- ▶ McDonald's has grown to With 33,500 restaurants in 119 countries feeding 69 million people daily, not to mention 29.5 million "Likes" on Facebook, McDonald's Corp. has no trouble cooking up data projects.

# McDonald's Contd...

- ▶ Rise in 'data diners' as WiFi usage soars at McDonald's
- ▶ Data Analytics at McDonald



## McDonald's Contd...

- ▶ Rise in 'data diners' as WiFi usage soars at McDonald's
- ▶ Data Analytics at McDonald
- ▶ You are busy with surfing but they are busy with snooping

# McDonald Contd...

What are the success factors?

- ▶ Innovation
  - ▶ Innovation stemming from responsiveness to customers and franchisees has played a big role in McDonald's fending off stagnation over the years.
- ▶ Resiliency
  - ▶ Read at <http://www.franchisedirect.com/information/markettrendsfactsaboutfranchising/thesuccessofmcdonalds/8/1111/>
- ▶ Goodwill

The impact of digital technology on music industry.

- ▶ Overview of music industry
- ▶ The changes in music industry from 1973

# Making more sense of music

- ▶ How do data scientists analyze sounds? *spectral analysis*
- ▶ What exactly is *spectral analysis*? Read <http://soundanalysispro.com/manual-1/spectral-analysis/introduction-to-spectral-analysis>
- ▶ Spectral analysis is used to calculate *added value* in film industry. Watch this video at <https://www.youtube.com/watch?v=iLUXYvr9P0o>.<sup>1</sup>

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<sup>1</sup>Added value is value added to the image or visual in bringing effects to the viewer

# VLCC

- ▶ Global massage industry 255 billion industry.
- ▶ VLCC founded by Vandana Luthra in 1989, as a Transformation Centre in Safdarjung Development Area, New Delhi.
- ▶ VLCC as of 2014 has expanded to 300 locations in 121 cities across 16 countries.
- ▶ The group employs nearly 6,000 people from 39 nationalities and has served over 10 million customers globally.
- ▶ How data analytics important for wellness industry  
<http://www.statcrunch.com/5.0/viewreport.php?reportid=24763>