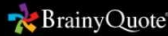




**History is a cyclic poem
written by time upon the
memories of man.**

Percy Bysshe Shelley



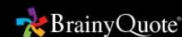
Milestones in Machine Learning History

Presented By: Dr.Mydhili K Nair

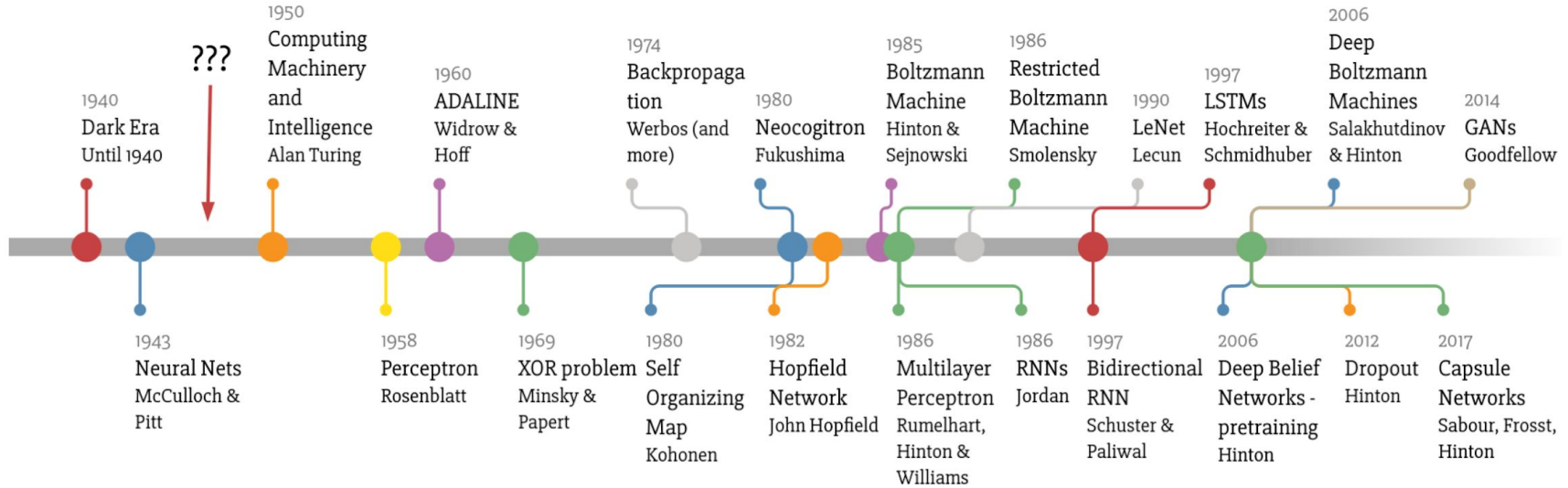


**If history were taught in the
form of stories, it would
never be forgotten.**

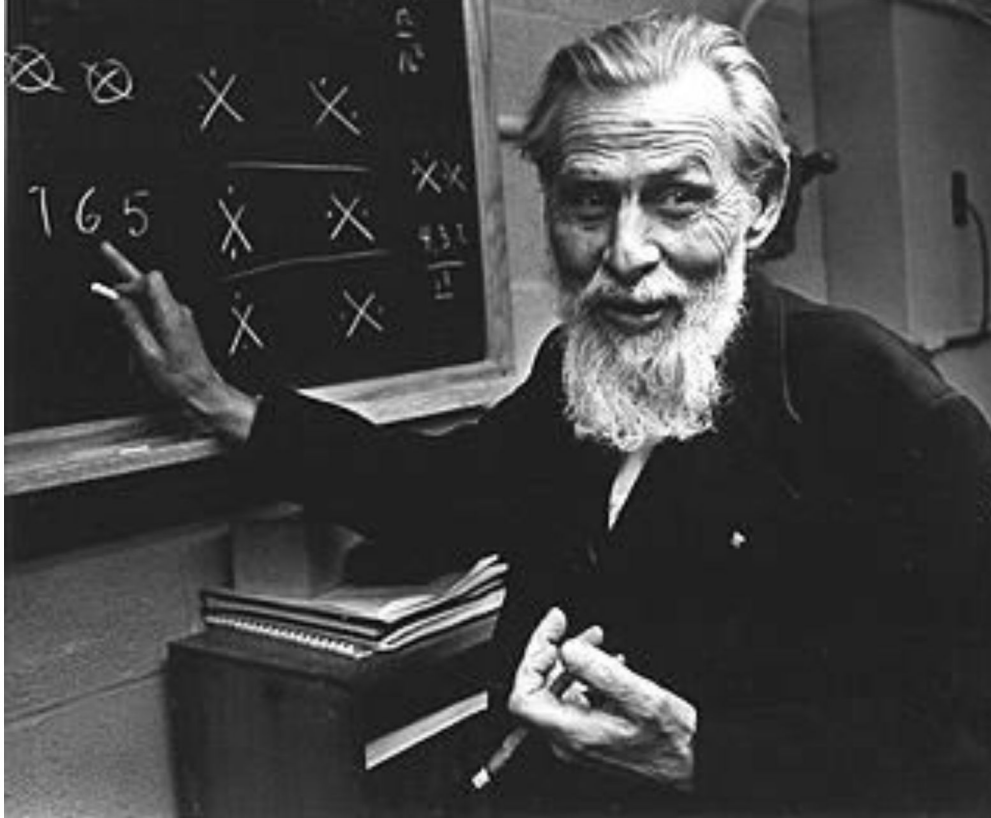
Rudyard Kipling



Deep Learning Timeline



McCulloch & Pitts' model of artificial neurons (1943)

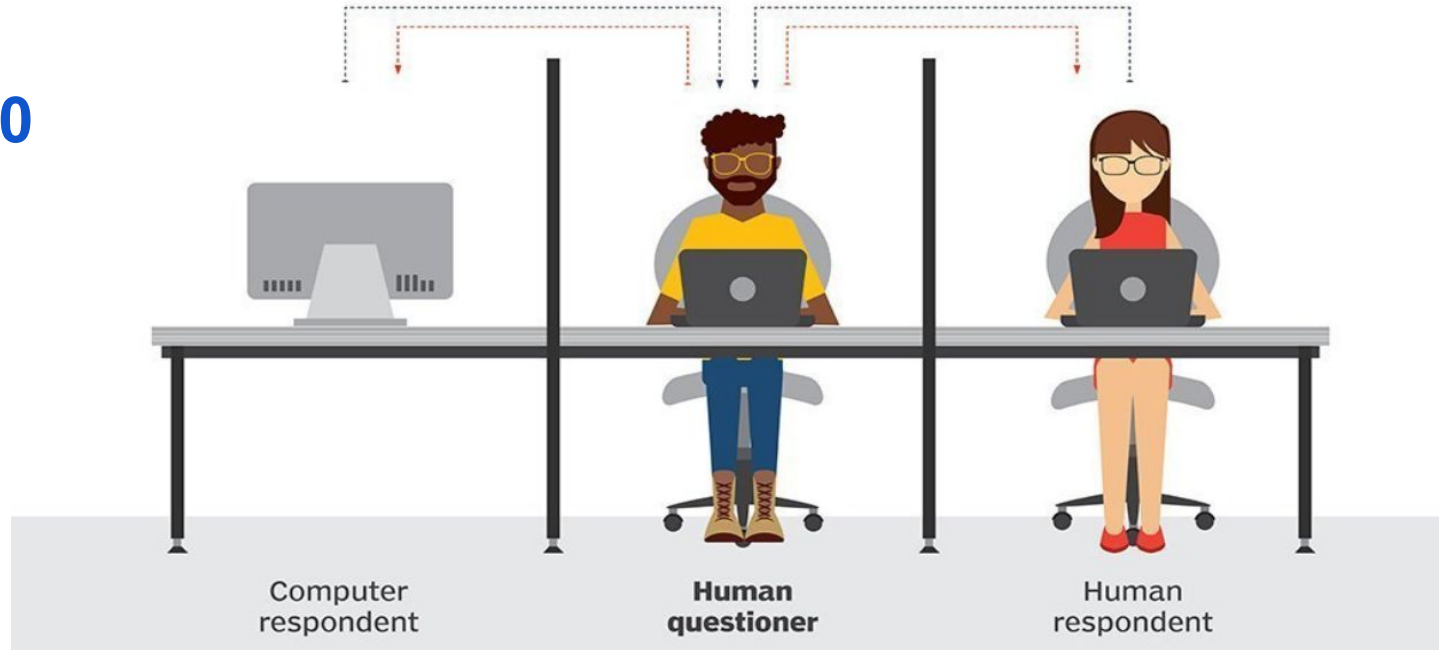


Turing test

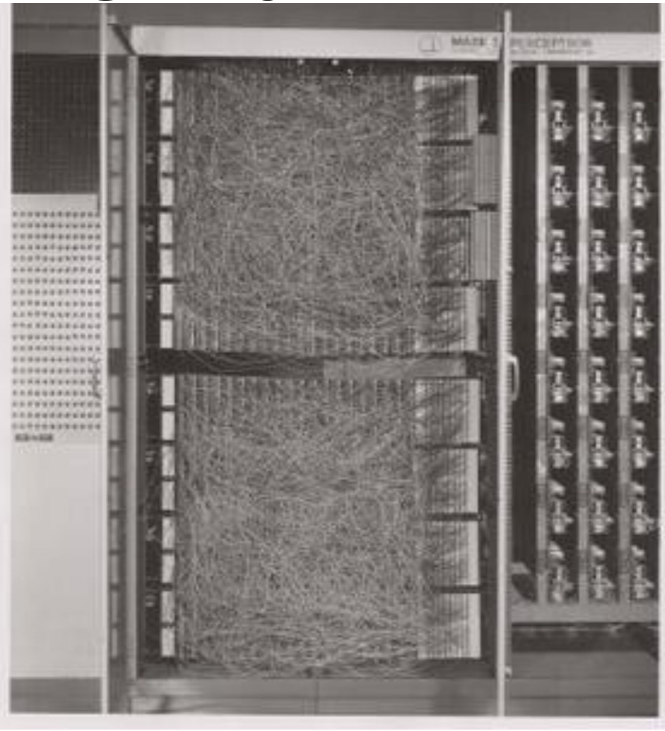
During the Turing test, the human questioner asks a series of questions to both respondents. After the specified time, the questioner tries to decide which terminal is operated by the human respondent and which terminal is operated by the computer.

■ QUESTION TO RESPONDENTS ■ ANSWERS TO QUESTIONER

1950



Rosenblatt's single layer perceptron (1957)



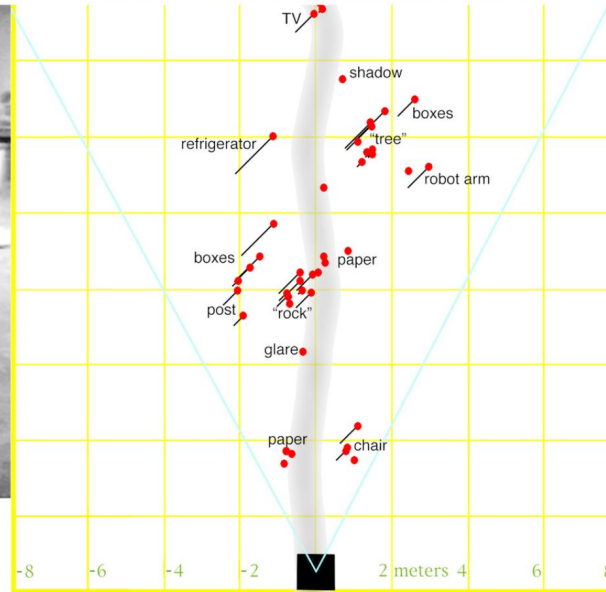
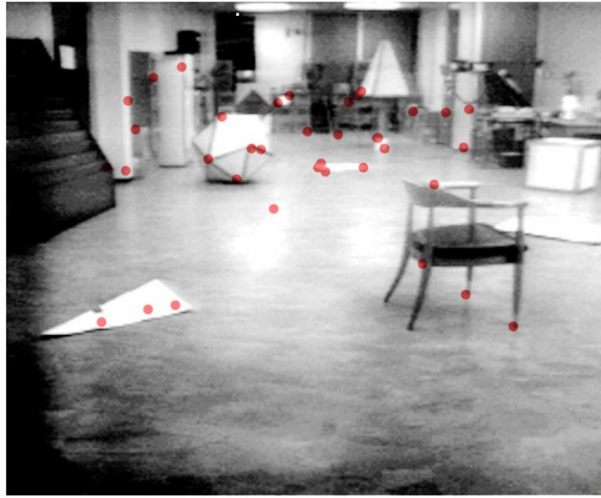
Left : Frank Rosenblatt, from [Wikipedia](#). Right : Mark I Perceptron machine, the first implementation of the perceptron algorithm. From [Wikipedia](#) as well.



Machine learning is the subfield of computer science that gives computers the ability to learn without being explicitly programmed.

~ Arthur Samuel
(Paraphrased and attributed)

1959 - IBM Computer “learnt” To Play CHECKERS



[click image to enlarge](#)

1979: Students at Stanford University invented the *“Stanford Cart”* which can navigate obstacles in a room on its own.

1979

First Robot 3D Mapping and Navigation in Ordinary Settings



NETtalk (artificial neural network)

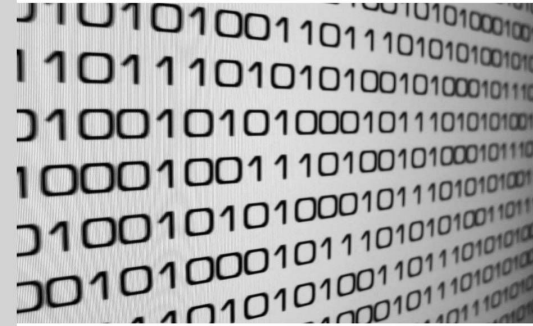
High Quality Content by WIKIPEDIA articles! NETtalk is a artificial neural network. It is the result of research carried out in the mid 1980s by Terrence Sejnowski and Charles Rosenberg. The intent behind NETtalk was to construct simplified models that might shed light on the complexity of learning human level cognitive tasks, and their implementation as a connectionist model that could also learn to perform a comparable task. It is a particularly fascinating neural network because hearing the audio examples of the neural network as it progresses through training seems to progress from a baby babbling to what sounds like a young child reading a kindergarten text, making the occasional mistake, but clearly demonstrating learned the major rules of reading.



9 786131 238222 978-613-1-23822-2

1985 — Terry Sejnowski invented *NetTalk*, which learns to pronounce words the same way a baby does.

Betascript
publishing



NETtalk (artificial neural network)

Artificial Neural Network, Sejnowski



Lambert M. Surhone,
Mariam T. Tennoe, Susan F. Henssonow (Ed.)

Beta

1997



Deep Blue versus **Garry Kasparov** was a pair of six-game chess matches between world chess champion **Garry Kasparov** and an IBM supercomputer called **Deep Blue**. The first match was played in Philadelphia in 1996 and won by **Kasparov**. *The second was played in New York City in **1997** and won by **Deep Blue**.*





2010 — The *Microsoft Kinect* can track 20 human features at a rate of 30 times per second, allowing people to interact with the computer via movements and gestures.



Ken Jennings, Watson, and Brad Rutter in their *Jeopardy!* exhibition match.

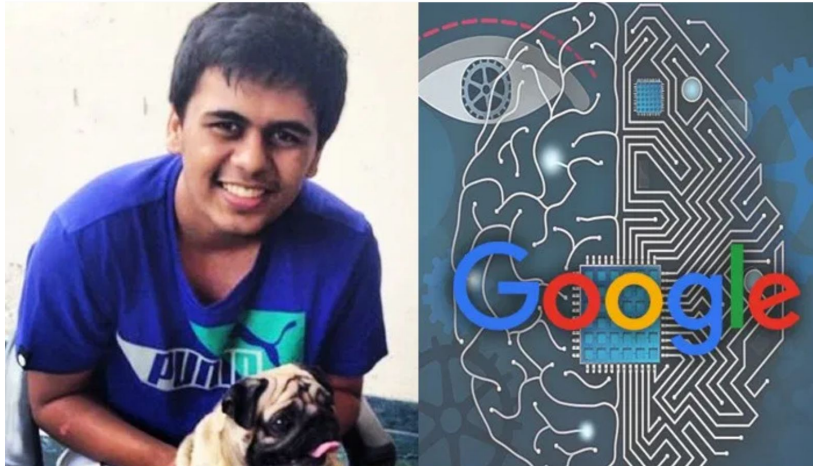


2011: Watson Won!

Watson is a question-answering computer system capable of answering questions posed in **natural language**, developed in IBM's DeepQA project by a research team led by principal investigator **David Ferrucci**. Watson was named after IBM's founder and first CEO, industrialist **Thomas J. Watson**.



2011- *Google Brain* got developed, and its deep neural network can learn to discover and categorize objects much the way a cat does.



[Archit Sharma](#), a senior undergraduate from Indian Institute of Technology (IIT), Kanpur, has made India proud by bagging the fellowship of Google Brain, an artificial intelligence research team of Google. The Google Brain fellowship is offered only to 50 students from across the globe.

THE STORY OF X

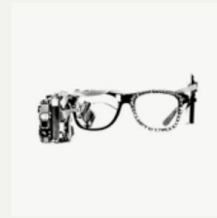
Google founders Larry Page and Sergey Brin always believed in investing some of the company's resources in hard, long-term problems. In 2010, a new division forms to work on moonshots: sci-fi sounding technologies that aim to make the world a radically better place.

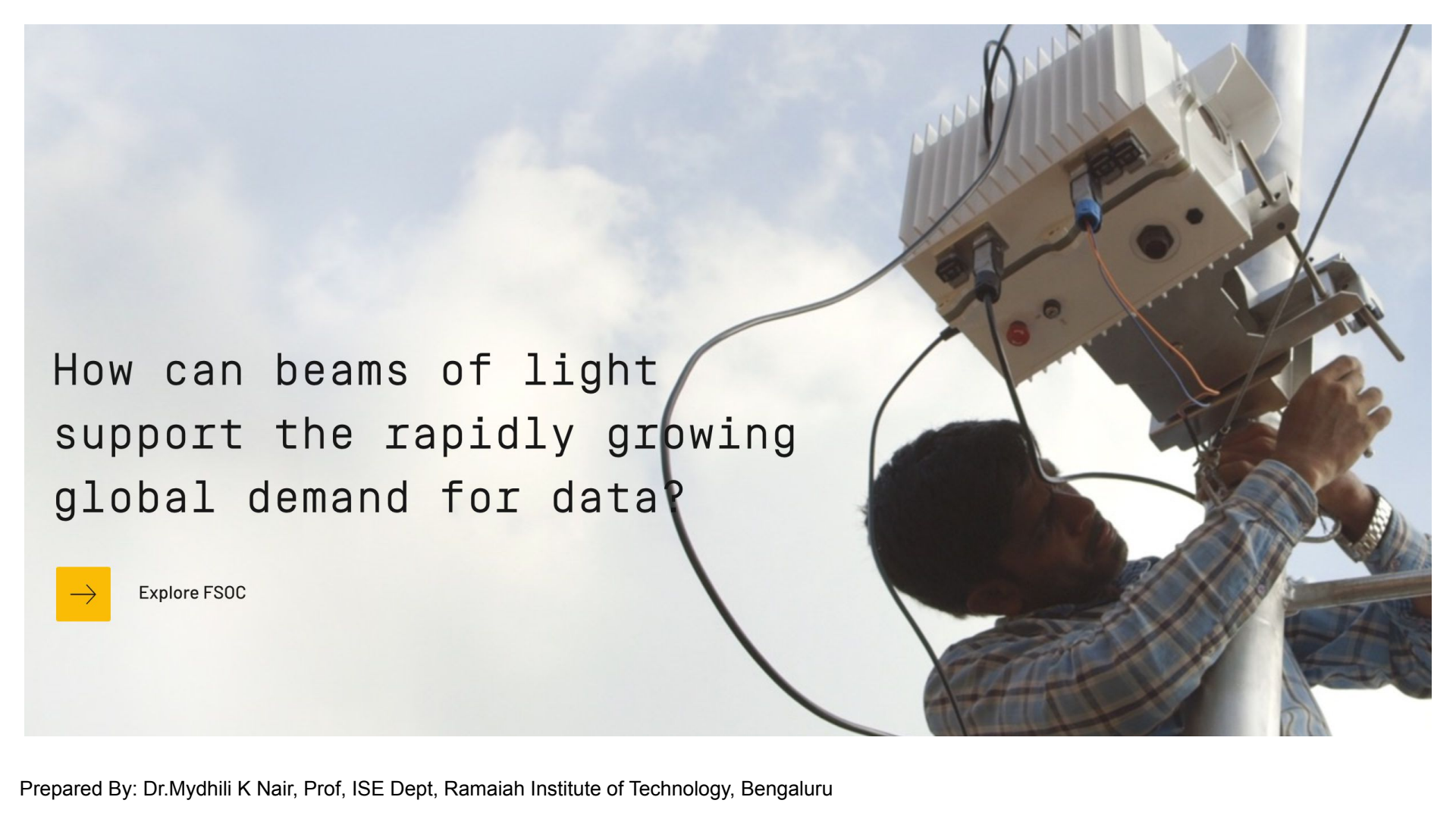


The Moonshot Factory



Google^[x]



A man in a blue and white plaid shirt is working on a white electronic device mounted on a metal pole. The device has several cables connected to it, including a blue Ethernet cable and a black power cable. The man is looking up at the device and is using a tool to adjust a cable. The background is a bright blue sky with white clouds.

How can beams of light
support the rapidly growing
global demand for data?



Explore FSOC

A white balloon is floating in the upper right portion of the frame against a clear blue sky. Below the balloon, a vast, rugged landscape of rolling hills and valleys stretches across the horizon. The terrain is covered in dense green vegetation, with some areas appearing more arid or rocky. The lighting suggests a bright, sunny day, with the sun casting soft shadows across the landscape. The overall scene conveys a sense of openness and connectivity.

How can balloons deliver
the Internet to rural
and unconnected places?



Explore Project Loon



How can drones change the
way goods are delivered
around the world?



Explore Project Wing

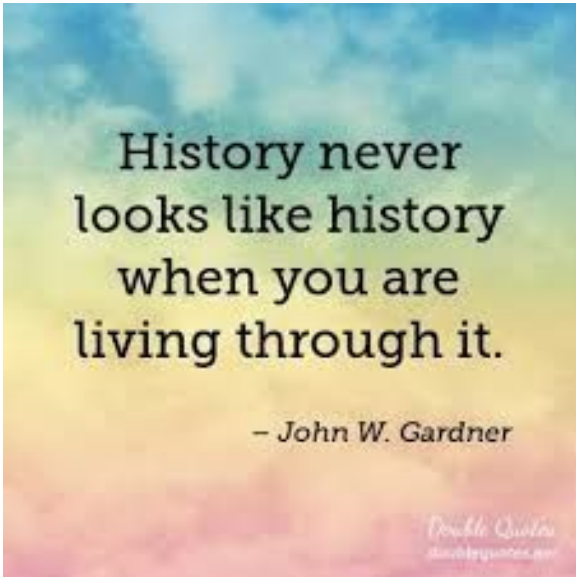




How can kites be used
to generate electricity
in unexpected places?



Explore Makani




History never
looks like history
when you are
living through it.

– John W. Gardner

Double Quotes
doublequotes.net

“



The future belongs to those who
believe in the beauty of their dreams."

Eleanor Roosevelt