



Inteligencia Artificial y sus aplicaciones

Josimar Edinson Chire Saire

11/11/17

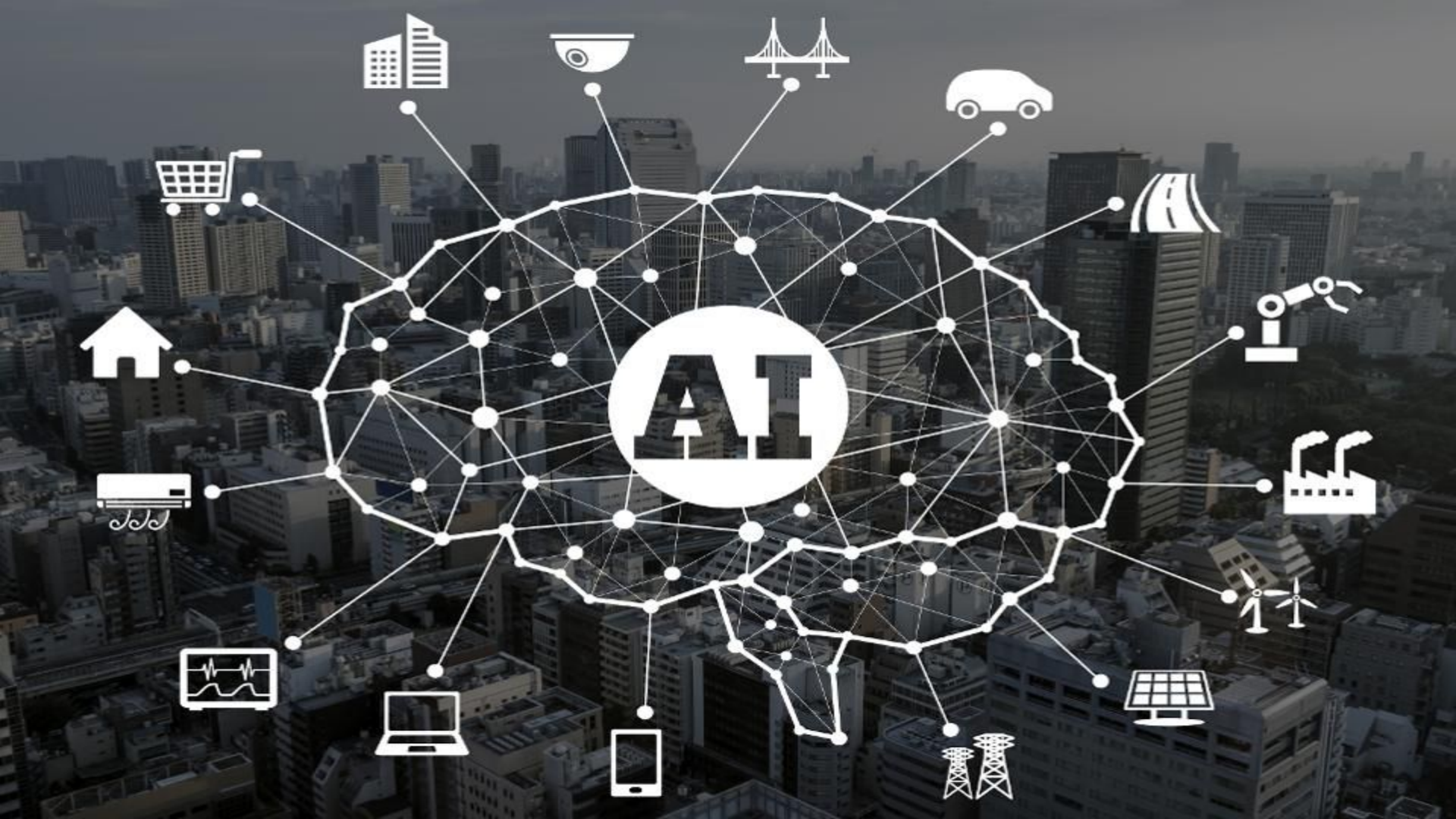
ICMC Sao Carlos

INSTITUTO DE
CIÊNCIAS
MATEMÁTICAS E DE
COMPUTAÇÃO



ICMC Bloco 6







WHAT IS A.I.?

Machine learning \subseteq artificial intelligence

ARTIFICIAL INTELLIGENCE

Design an intelligent agent that perceives its environment and makes decisions to maximize chances of achieving its goal.

Subfields: vision, robotics, machine learning, natural language processing, planning, ...

MACHINE LEARNING

Gives "computers the ability to learn without being explicitly programmed" (Arthur Samuel, 1959)

SUPERVISED LEARNING

Classification, regression

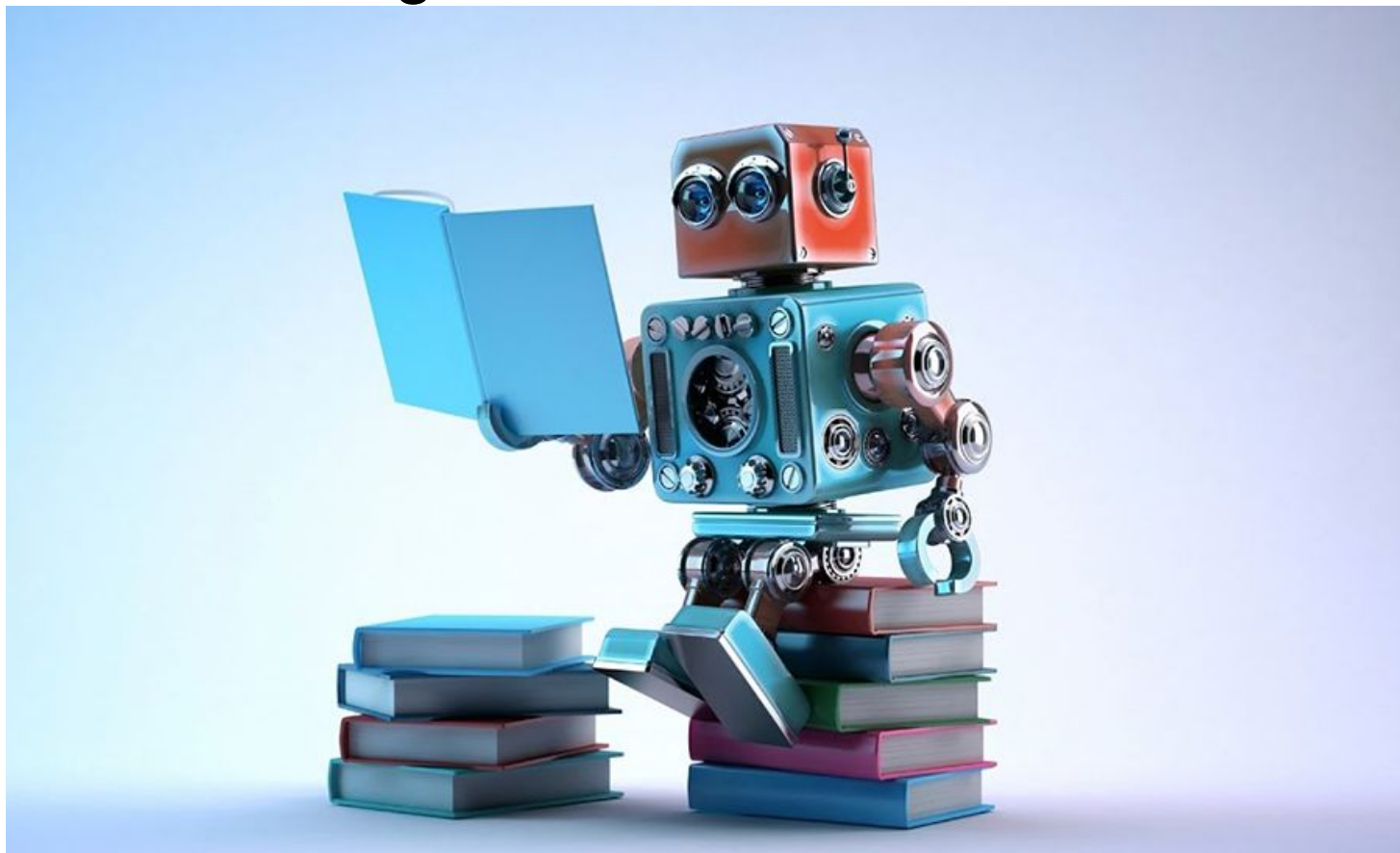
UNSUPERVISED LEARNING

Clustering, dimensionality
reduction, recommendation

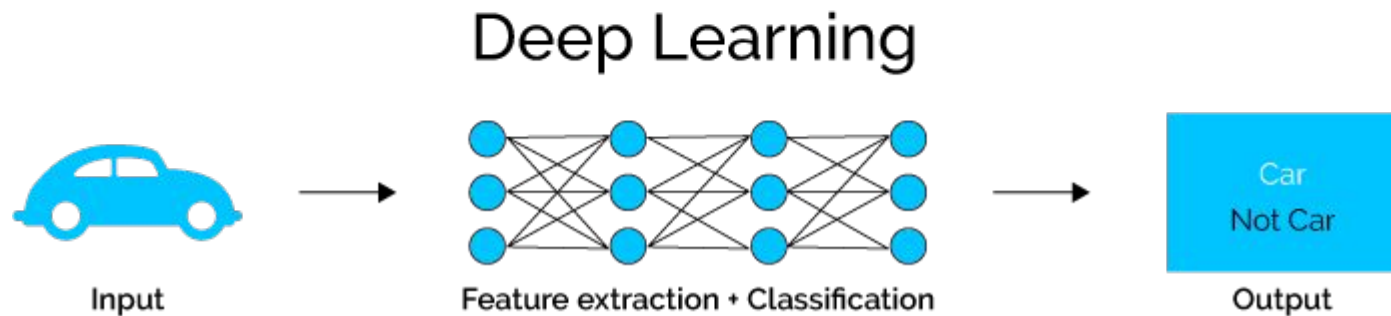
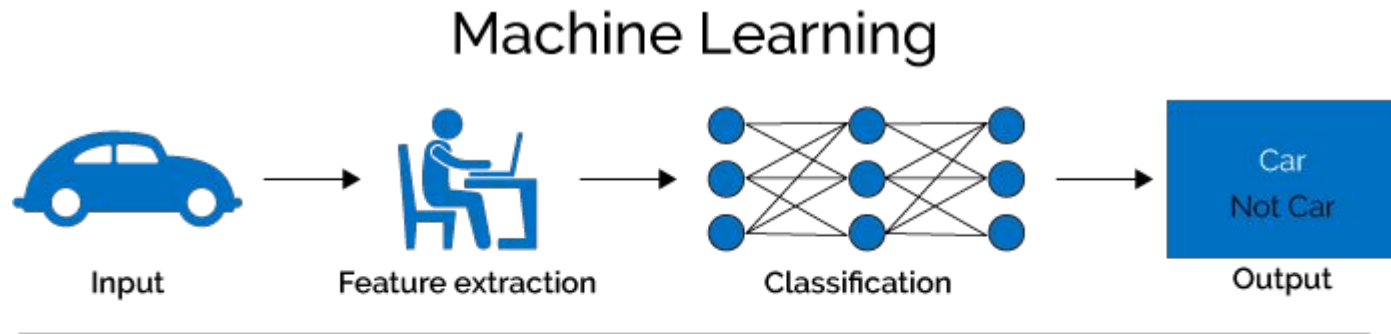
REINFORCEMENT LEARNING

Reward maximization

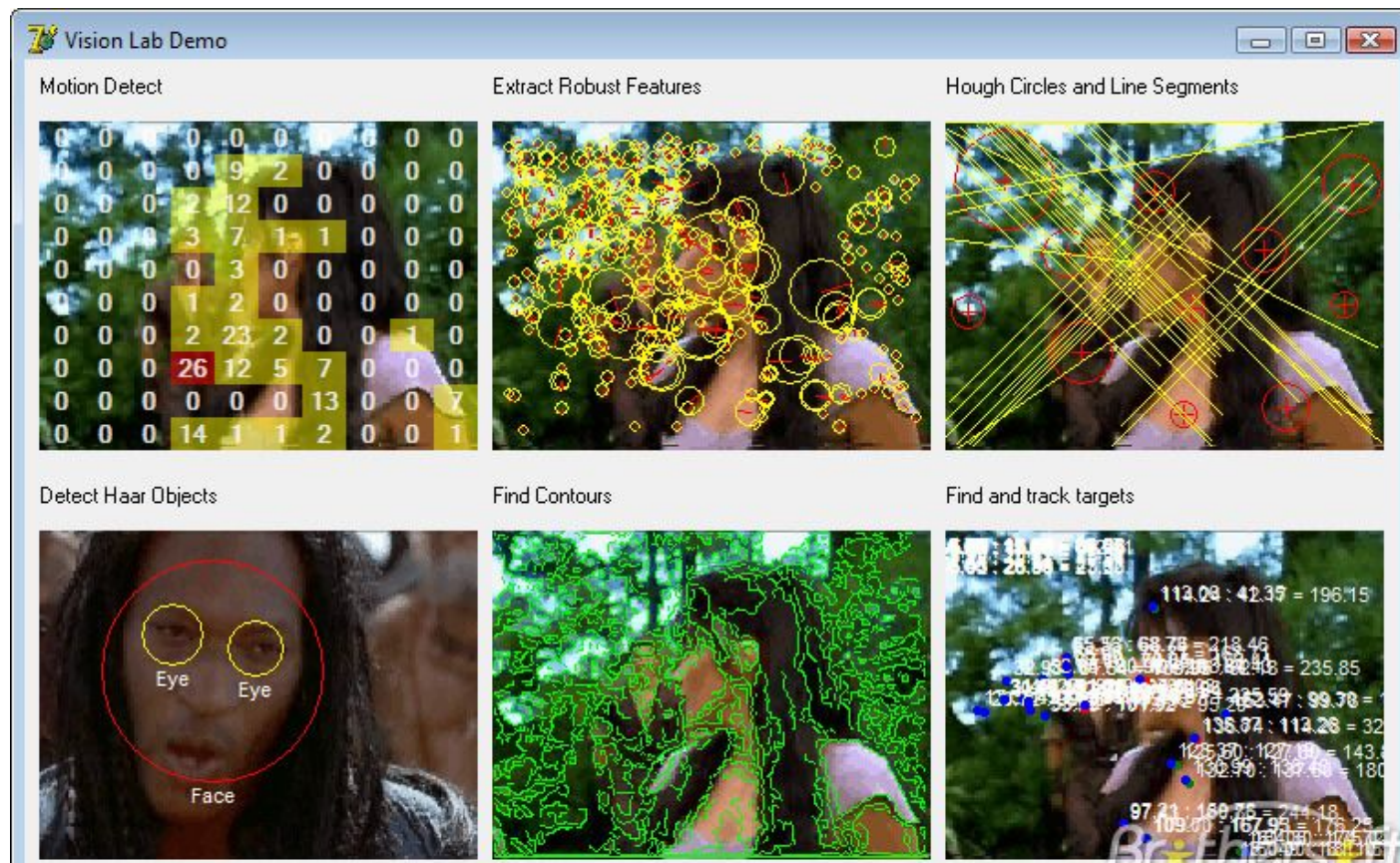
Machine Learning



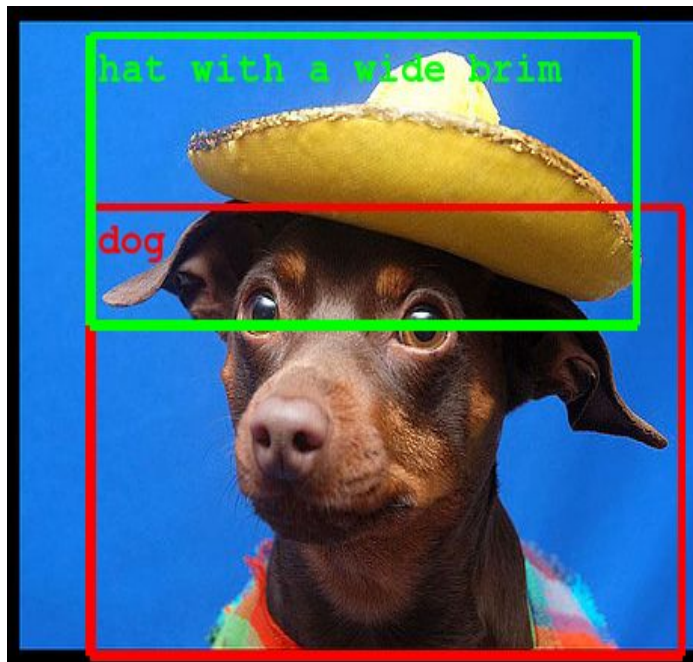
Machine Learning



Computer Vision



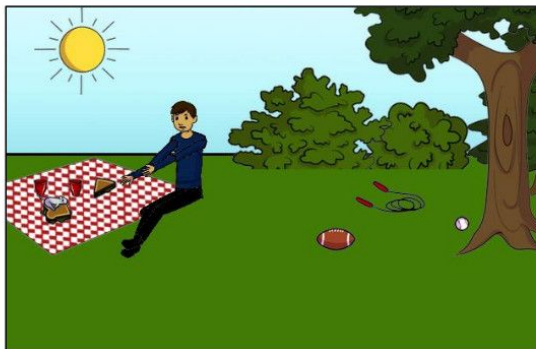
Computer Vision



What color are her eyes?
What is the mustache made of?



How many slices of pizza are there?
Is this a vegetarian pizza?

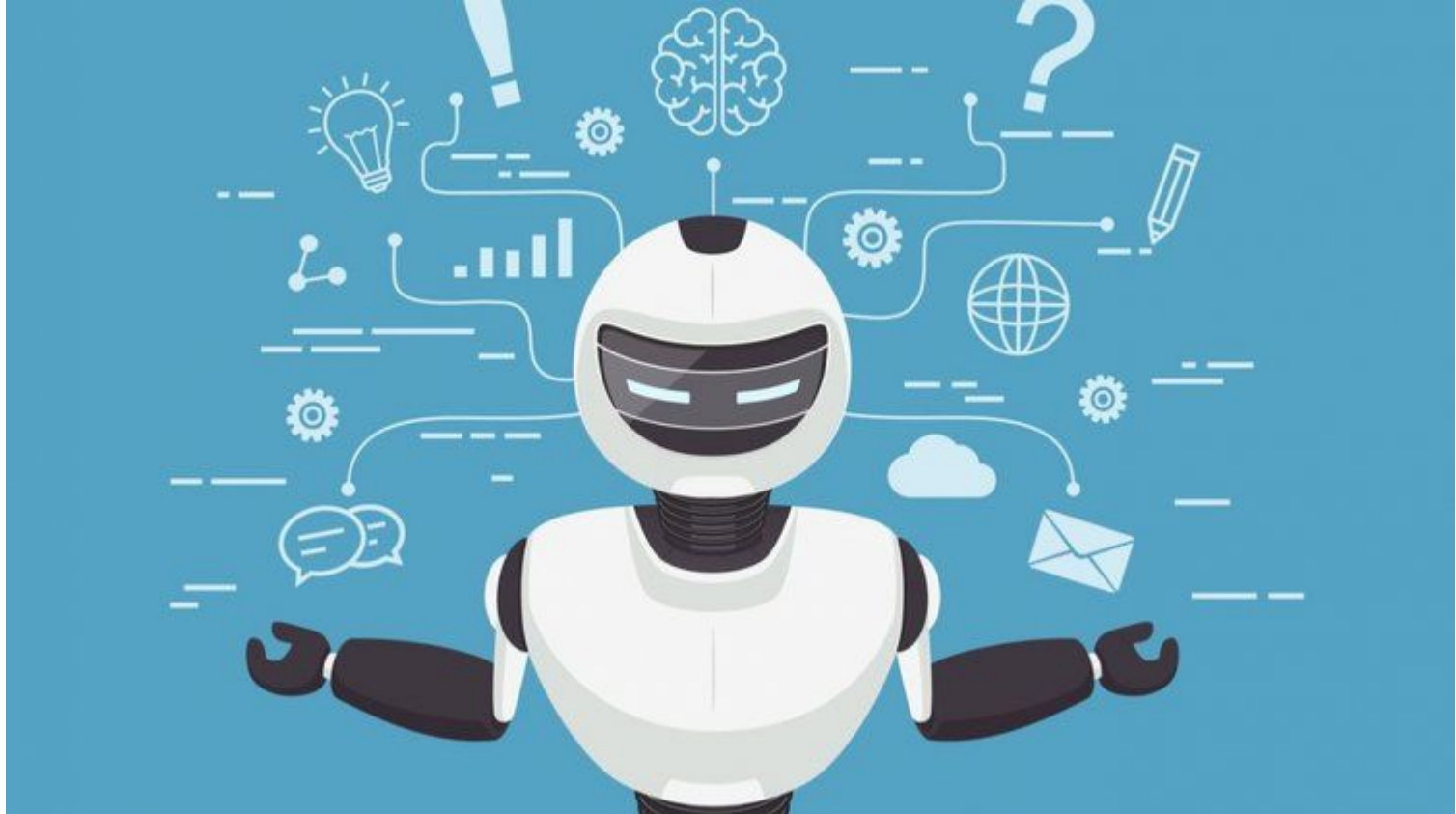


Is this person expecting company?
What is just under the tree?



Does it appear to be rainy?
Does this person have 20/20 vision?

Natural Language Processing



Natural Language Processing

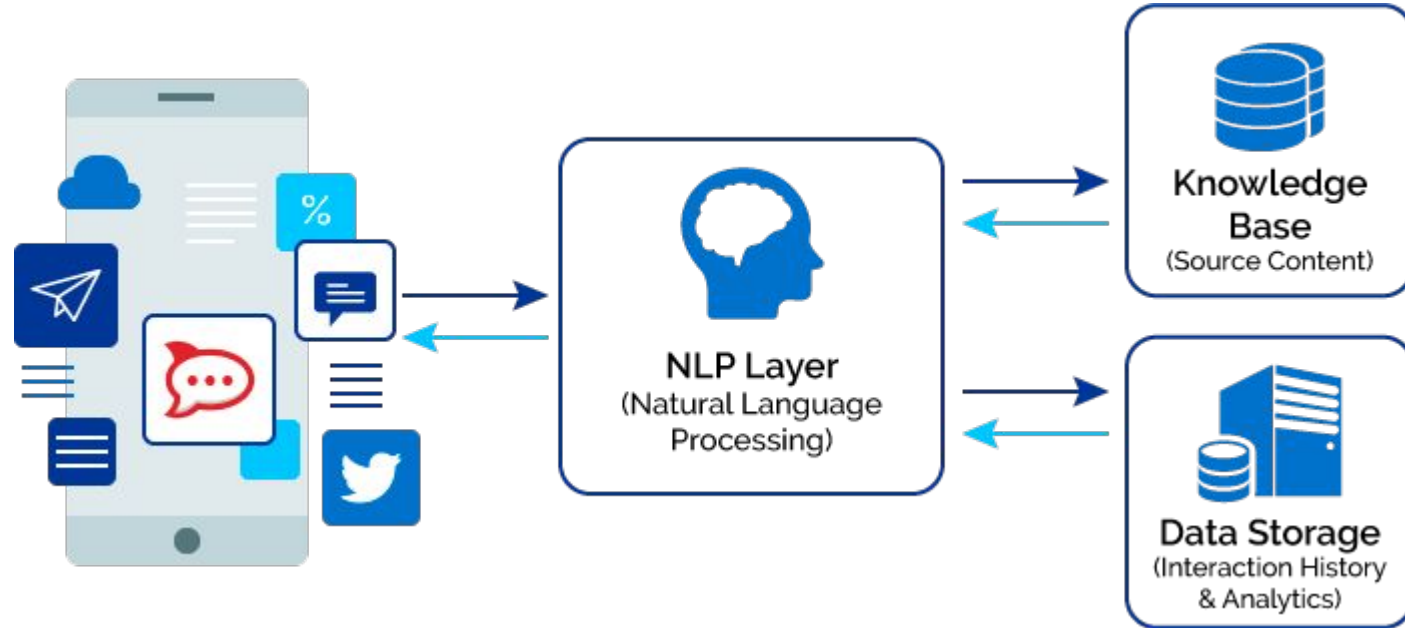
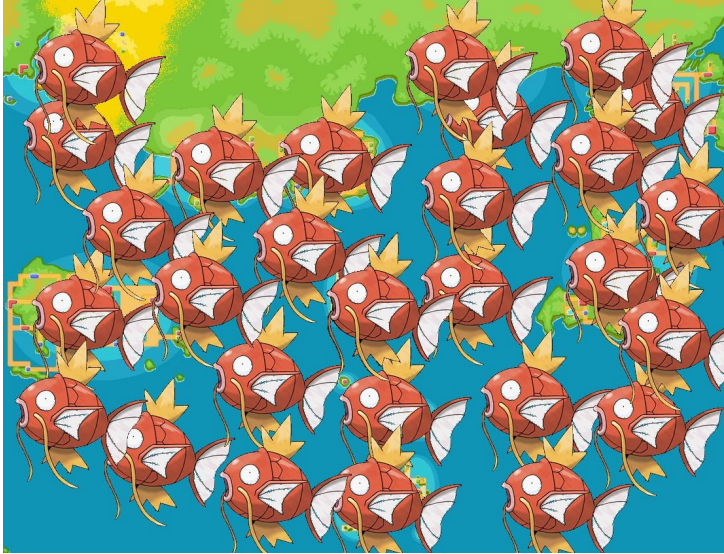




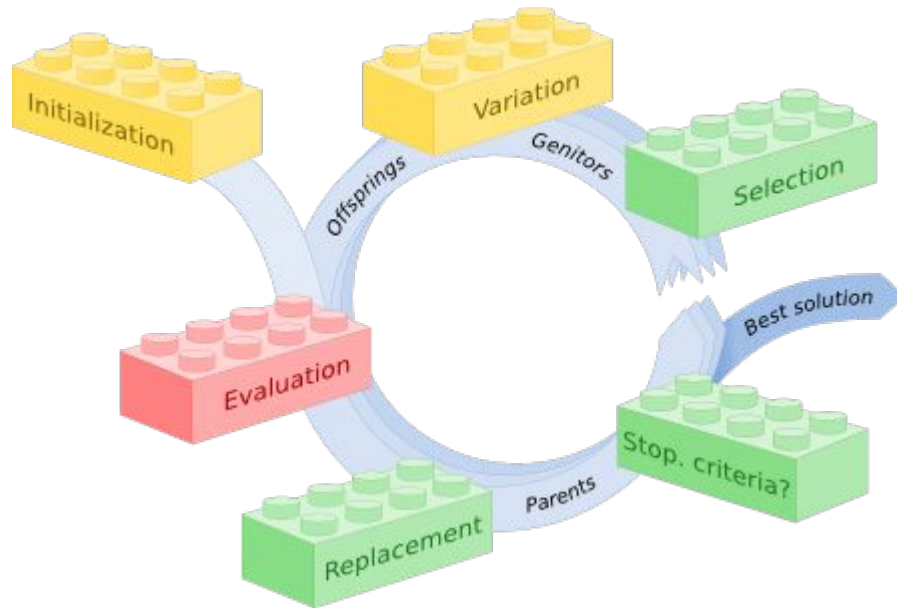
Image Source :

http://zenashapter.com/blog/wp-content/uploads/2014/05/20090326_085025_OP27keefedpo.jpg

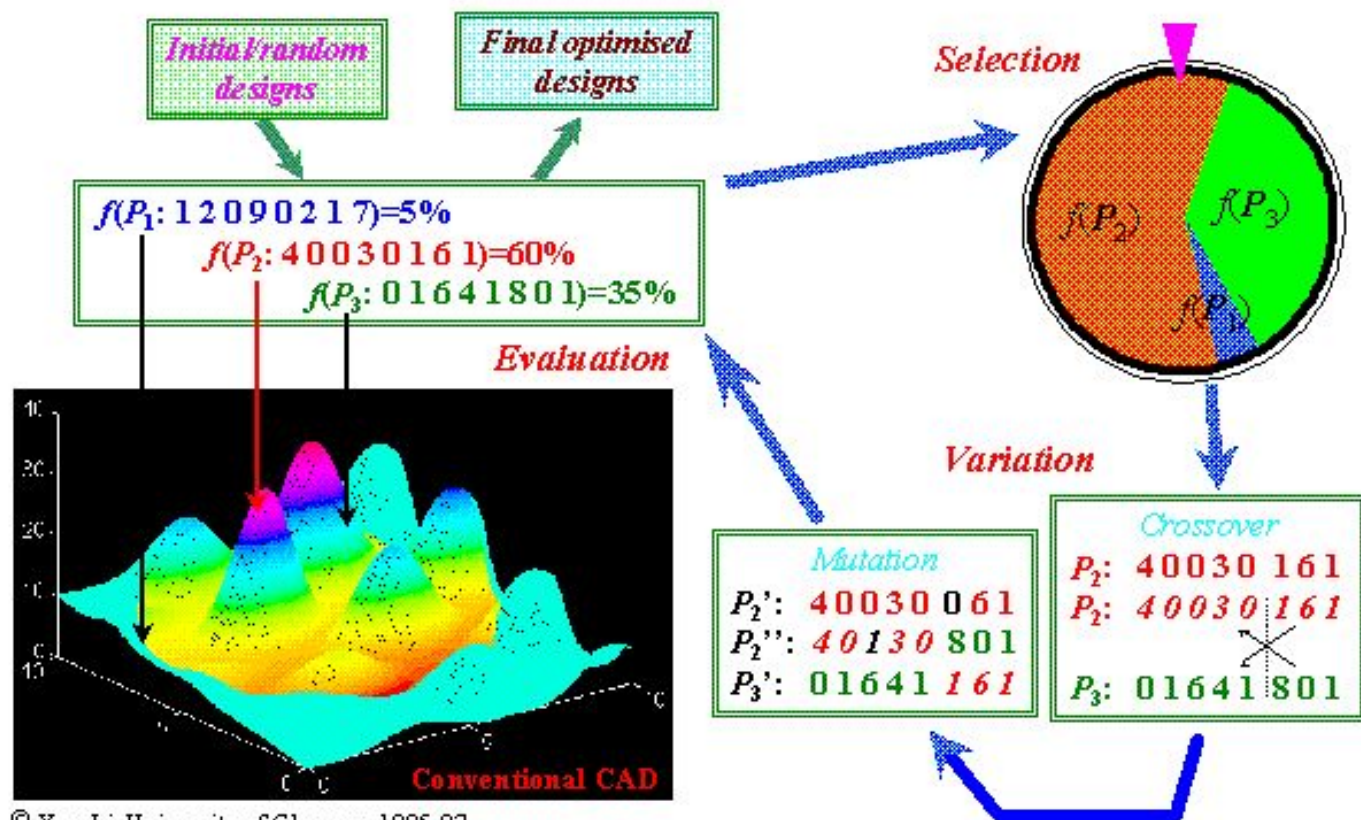
Evolutionary Algorithms, Bio-inspired Algorithms



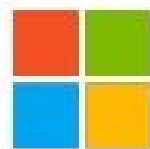
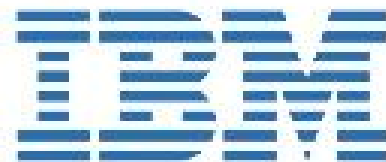
Evolutionary Algorithms



Computer-Automated Design by Artificial Evolution



Hot Companies In AI: Click To Explore



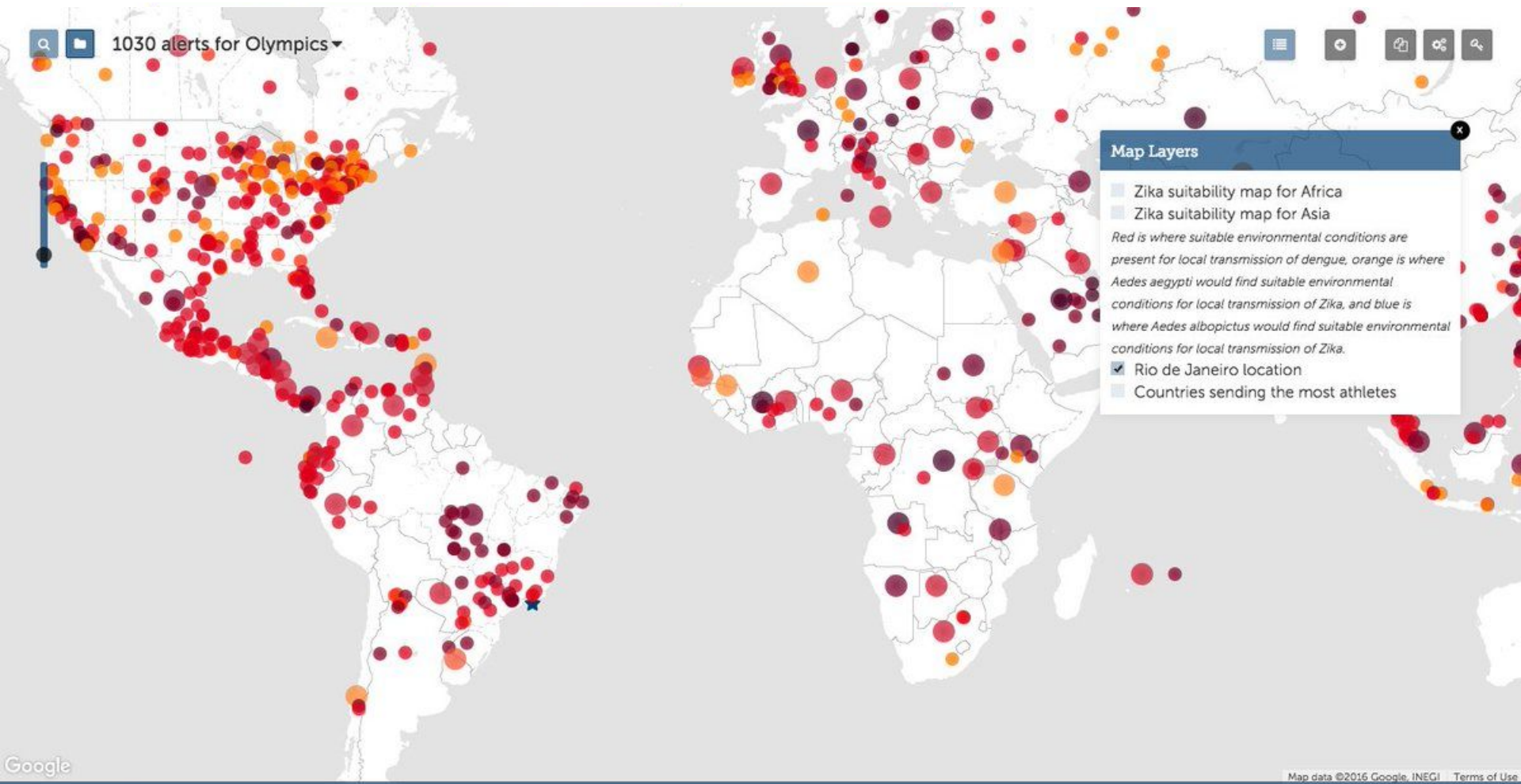
Microsoft

Dropbox



Socialintelligence

1030 alerts for Olympics



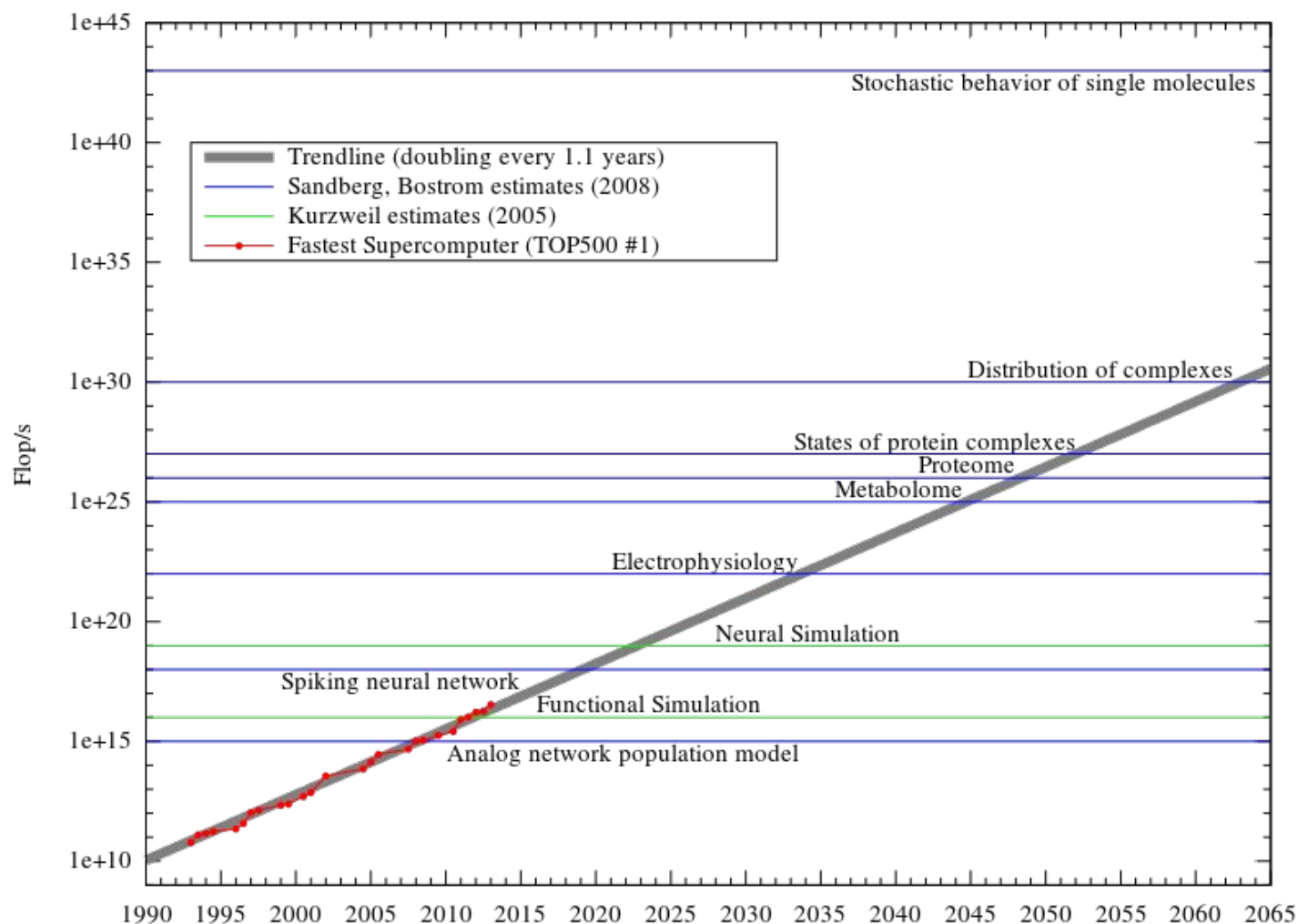




Artificial General Intelligence

Skynet





Rank	System	Cores	Rmax (TFlop/s)	Rpeak (TFlop/s)	Power (kW)
1	Sunway TaihuLight - Sunway MPP, Sunway SW26010 260C 1.45GHz, Sunway , NRCPC National Supercomputing Center in Wuxi China	10,649,600	93,014.6	125,435.9	15,371
2	Tianhe-2 (MilkyWay-2) - TH-IVB-FEP Cluster, Intel Xeon E5-2692 12C 2.200GHz, TH Express-2, Intel Xeon Phi 31S1P , NUDT National Super Computer Center in Guangzhou China	3,120,000	33,862.7	54,902.4	17,808
3	Piz Daint - Cray XC50, Xeon E5-2690v3 12C 2.6GHz, Aries interconnect , NVIDIA Tesla P100 , Cray Inc. Swiss National Supercomputing Centre (CSCS) Switzerland	361,760	19,590.0	25,326.3	2,272
4	Titan - Cray XK7, Opteron 6274 16C 2.200GHz, Cray Gemini interconnect, NVIDIA K20x , Cray Inc. DOE/SC/Oak Ridge National Laboratory United States	560,640	17,590.0	27,112.5	8,209

Preguntas?

Yo preguntaré???

Contacto

jecs89@gmail.com

github.com/jecs89

+51941445426