



Artificial Intelligence: An introduction

Fabio Martínez, Ph.D

Escuela de ingeniería de sistemas e informática
Laboratory. **BivL²ab**
MACV
Universidad Industrial de Santander

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Motion Analysis and Computer Vision

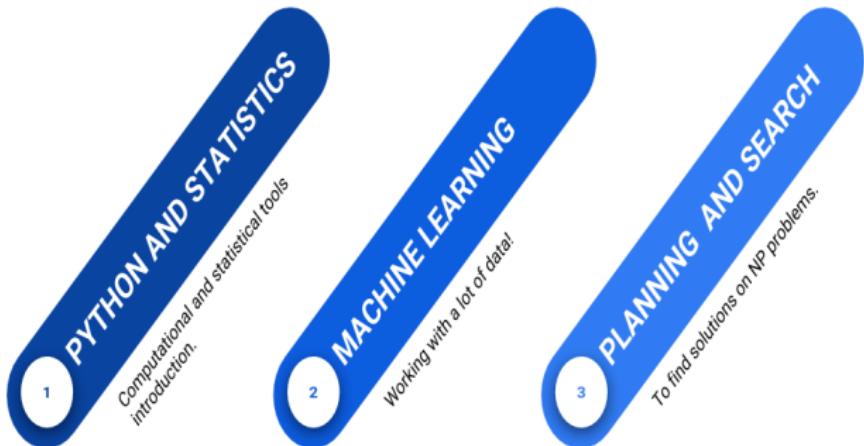


Biomedical Imaging, Vision and Learning Laboratory

Información del profesor

- ▶ Nombre: Fabio Martínez Carrillo
- ▶ Correo (contacto y comunicación):
famarcar@saber.uis.edu.co
- ▶ Página Web: contenido del curso
[curso GITHUB](#)

Course outline



- ▶ **The course** is mainly based on the **coding of I.A concepts** and the **develop of small applications**
- ▶ **The course** is focus on the analysis and study of **I.A algorithms**

I.A. Course



Course

It is about learn fundamental tools to face with problems and challenges of I.A. Some computational tools and some theoretical concepts.

First module: Python and statistic introduction

- ▶ Some intro about Python
- ▶ Some intro about statistic
- ▶ Bayes introduction



Second Module: Machine Learning

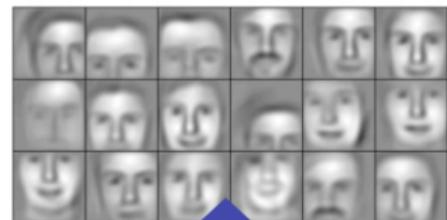
- ▶ Naive Bayes
- ▶ Classification trees
- ▶ Support vector machine
- ▶ non-supervised learning
- ▶ deep-learning introduction



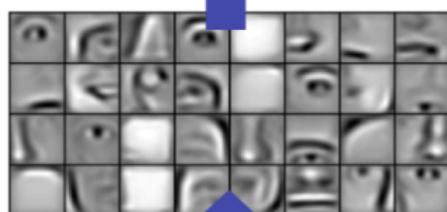
Big challenges

Now, algorithms can create new things . . . as abstract as the art! (Netflix 5:15. Bill Nye)

Big challenges



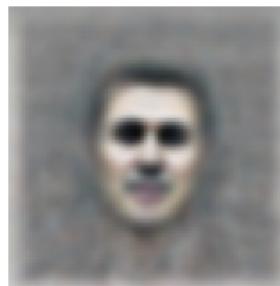
Layer 3



Layer 2



Layer 1



Big challenges



A L P H A G O

Big challenges



A L P H A G O

ImageNet Challenge

Big challenges

IMAGENET

IMAGENET Netflix 22.30. Bill Nye

- 1,000 object classes (categories).
- Images:
 - 1.2 M train
 - 100k test.

			
mite black widow cockroach tick starfish	container ship lifeboat amphibian fireboat drilling platform	motor scooter go-kart moped bumper car golfcart	leopard jaguar cheetah snow leopard Egyptian cat
			
grille convertible grille pickup beach wagon fire engine	mushroom agaric mushroom jelly fungus gill fungus dead-man's-fingers	cherry dalmatian grape elderberry ffordshire bulterrier currant	Madagascar cat squirrel monkey spider monkey titi indri howler monkey

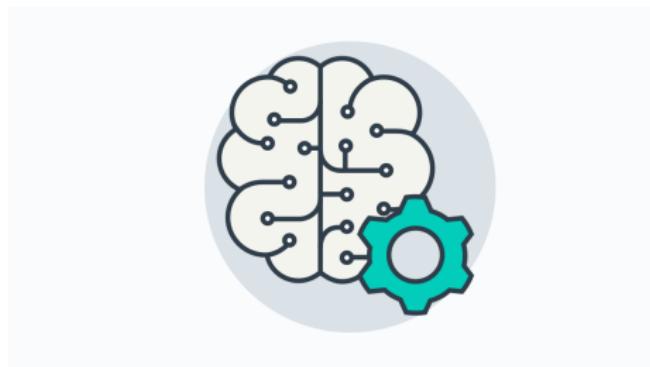
As support for decisions

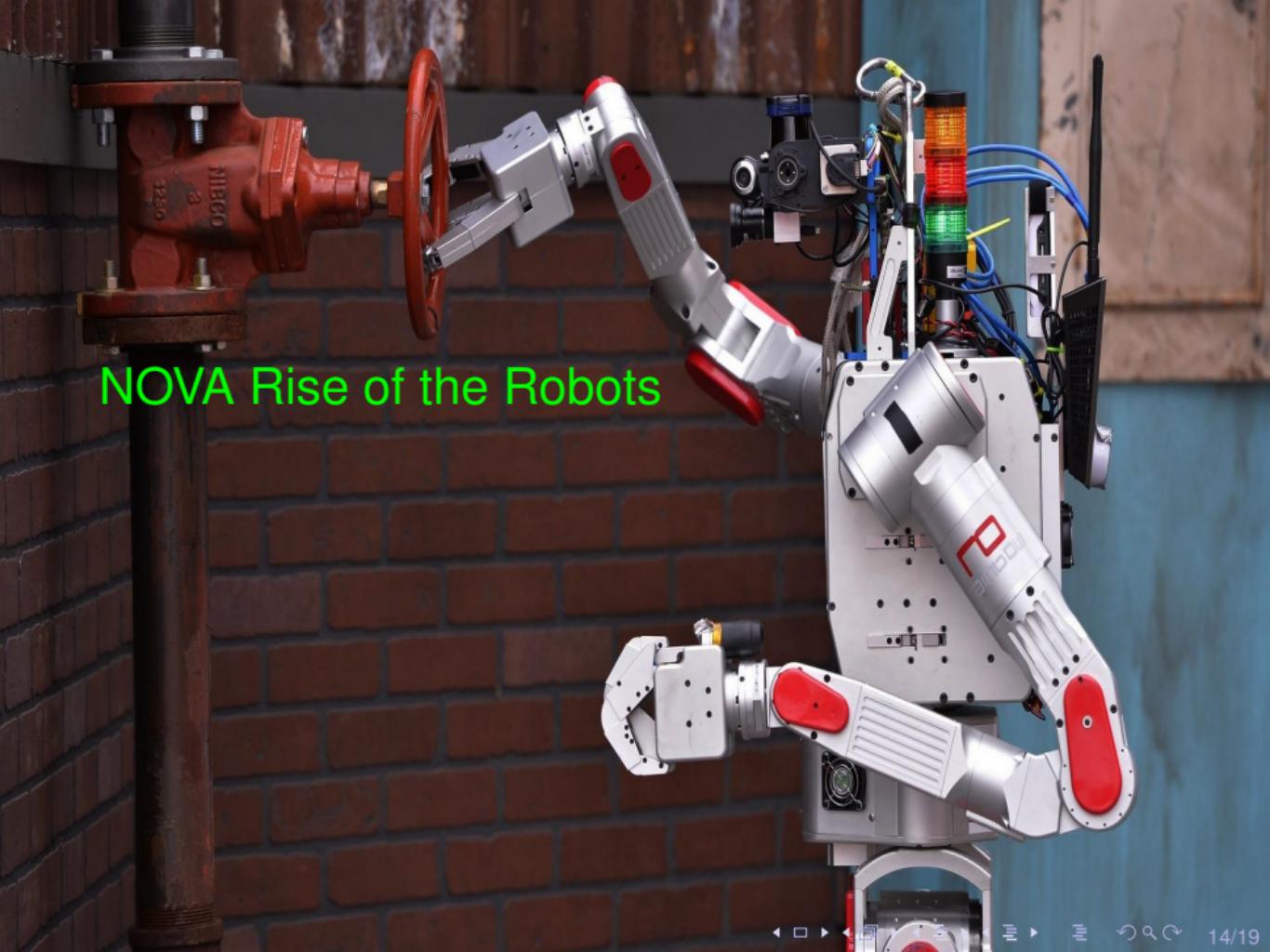
- ▶ Medicine
- ▶ Politics
- ▶ Laws



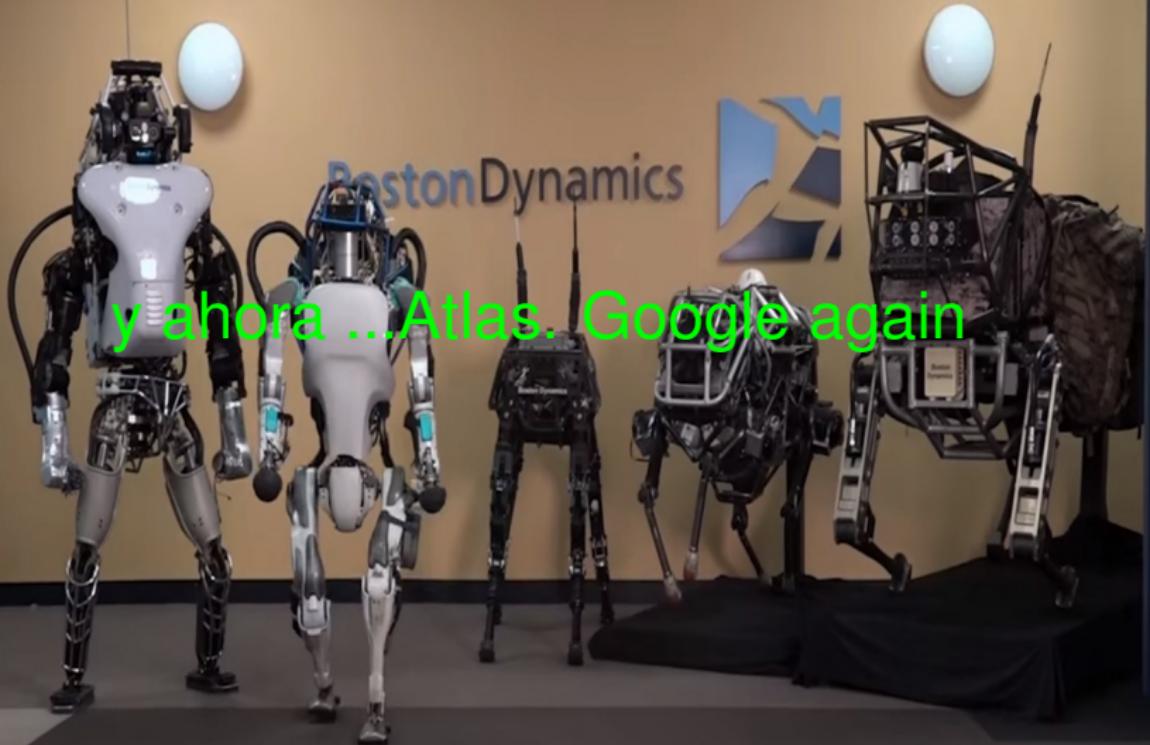
Third module: Planning and Search

- ▶ planning and searching
- ▶ genetic algorithms
- ▶ simulated annealing





NOVA Rise of the Robots



Boston Dynamics



Structure of the Course

- ▶ 40% Talleres (Problemsets)
- ▶ 30% Parciales (Quizes)
- ▶ 30 % + [10% ,20 %, 30 %] Proyecto funcional IA
- ▶ +10 % Online courses (MOOC)

curso GITHUB

PROJECTS 2018-2

A.I. 20182



Thank you for your attention ...



... It's time to wake up



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