LNLP Technology

Deep Natural Language Processing

The company

- Founded in 2007, we have developed NL solutions for companies like Telefonica, Telecinco (a Spanish broadcasting company), CatalunyaCaixa (a Spanish financial institution), or Mutua Madrileña (a health mutual)

- We have been funded for the development of this technology by CDTI (an Spanish innovation agency).

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Motivation: Some AIML problems

*<pattern> I need a * for my car</pattern>*

*<template> SELECT * FROM mydb WHERE*

type='<star/>' AND use='for_the_car'</template>

- *I need a mirror for my car*
- *I need a smartphone with a plug for my car*
- *I need a tv for the kitchen that has a price low enough so that I can also buy something else for my car*
- *I need a new rear-view mirror for my car*

Advantage #1: more accuracy

I am Juan and I am software developer in a bank

FAQ

Answer: Hello, I an here to answer your questions about e-Replicant.

Pending questions:
Could you tell me your name? [?]
What is your company's activity? [?]
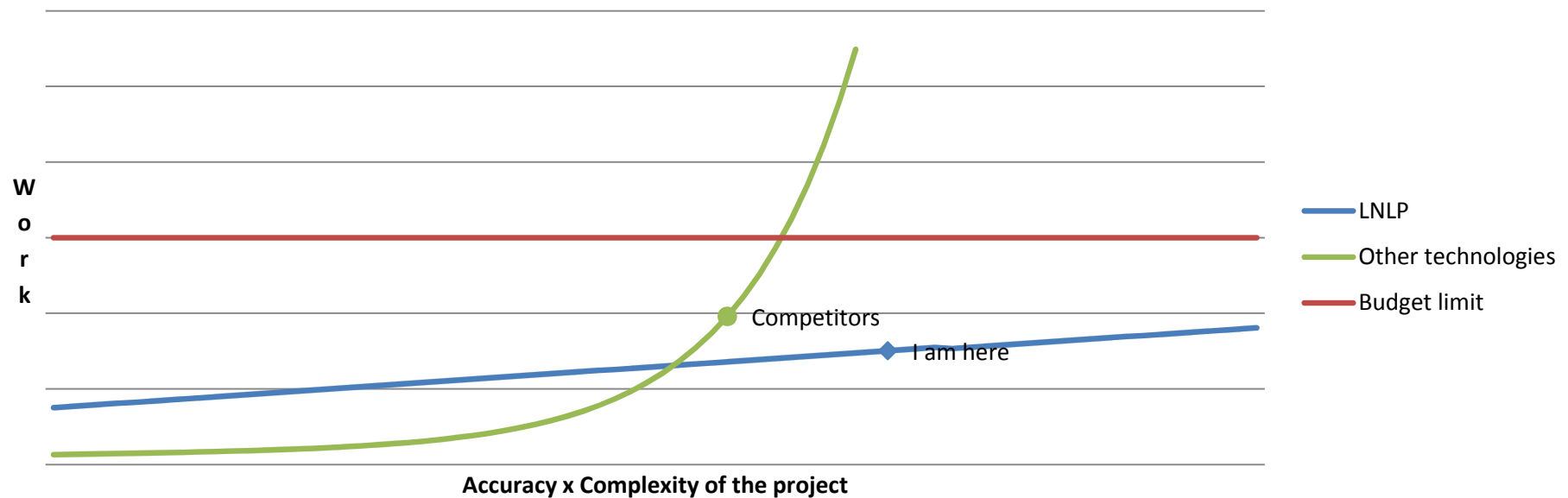What is your current position in your company? [?]

1/1

FAQ

Answer: Nice to meet you juan . Thank you.

Pending questions:
Would you like to reduce the cost of attending your customers? [?]

2/2

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Advantage #2: avoiding exponential growth of work

W o r k

Accuracy x Complexity of the project

Competitors

I am here

LNLP

Other technologies

Budget limit

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Application: e-Commerce

category=monitors,_TVs__projectors x   power_consumption<=200 w x   Update results

	Product	category	power_cons
☐ 2	Sony KDL-40HX700	LCD TVs	0.20
☐ 2	Sony KDL-46HX700AEP	LCD TVs	0.00
☐ 2	Sony KDL-40EX600	LCD TVs	0.19
☐ 2		LCD TVs	0.00

Seating distance is also a factor, although from a picture quality perspective with high-definition sources, you can sit pretty close to the screen and in quality. In a perfect videophile world, you'd want to sit no closer than 1.5 times the screen's diagonal measurement, and no farther than twice the TV. For example, for a 50-inch TV, you'd sit between 75 and 100 inches (6.25 and 8.3 feet) from the screen. Many people are more comfortal than that, but of course the farther away you sit from a TV, the less immersive feeling it provides.

Send

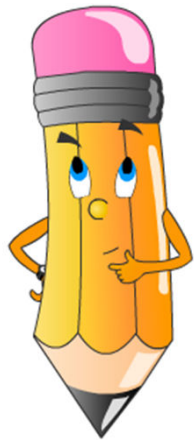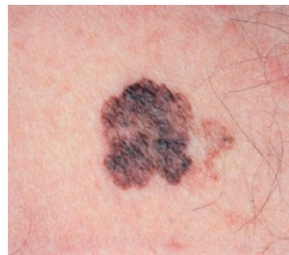I want a tv for the dinning room whose power consumption is under 200 w x

COMMENT: Ok.
See results at your right.
Thank you for the information.
Look below if I have new questions for you.

Pending questions:
What is the intended use for your tv? [?]
How far do you sit away from tv? [?]

« » 1/1

Application: medical diagnosis
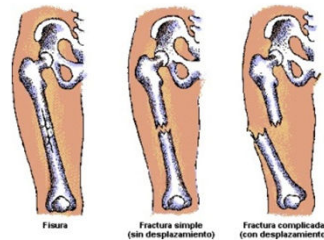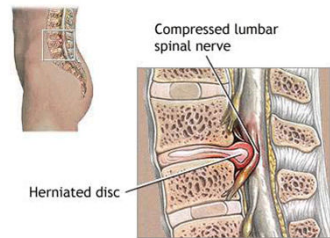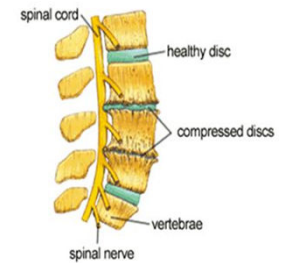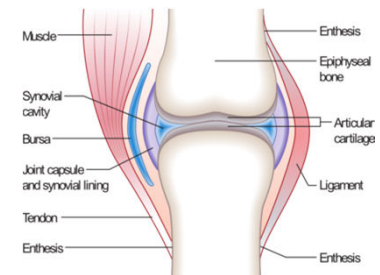
Symptoms: back pain

I have pain in the back

See the list of possible diseases based on your symptoms.

Send

0/0

Trauma

Cancer

Fracture

Fisura | Fractura simple (sin desplazamiento) | Fractura complicada (con desplazamiento)

Spinal disc herniation

Compressed lumbar spinal nerve

Herniated disc

❖A.D.A.M.

Degenerative Disc Disease

spinal cord
healthy disc
compressed discs
vertebrae
spinal nerve

Synovial joints

Muscle
Synovial cavity
Bursa
Joint capsule and synovial lining
Tendon
Enthesis
Enthesis
Epiphyseal bone
Articular cartilage
Ligament
Enthesis

Sponsored advise (by Mutua General): Back pain can be divided anatomically: neck pain, middle back pain, lower back pain or tailbone pain.   👍 98%

Private advise (by Clínica de Barcelona): Back pain in individuals with a history of cancer should be evaluated to rule out metastatic disease of the spine.

Application: medical diagnosis

Symptoms: back pain, no fever, lower extremity pain

Spinal disc herniation

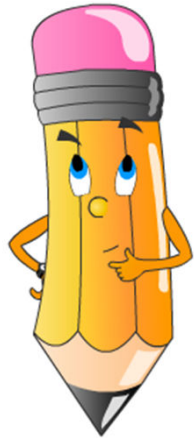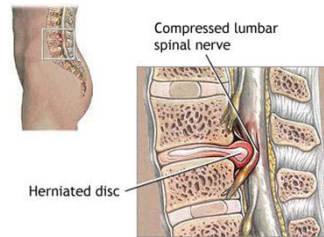Degenerative Disc Disease

I don't have fever and I also have lower extremity pain

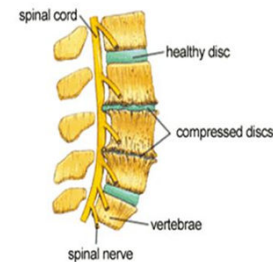See the list of possible diseases based on your symptoms.

Send

0/0

Sponsored advise (by Mutua General): A fever can be caused by many different conditions ranging from benign to potentially serious. There are arguments for and against the usefulness of fever, and the issue is controversial.[3][4] With the exception of very high temperatures, treatment to reduce fever is often not necessary; however, antipyretic medications can be effective at lowering the temperature, which may improve the affected person's comfort. 81%

Platform advise : In healthy adult men and women, the range of normal, healthy temperatures for oral temperature is 33.2–38.2 °C (91.8–100.8 °F), for rectal it is 34.4–37.8 °C (93.9–100 °F), for tympanic membrane (the ear drum) it is 35.4–37.8 °C (95.7–100 °F), and for axillary (the armpit) it is 35.5–37.0 °C (95.9–98.6 °F). 98%

Ability to develop the project

- We have information from hundreds of thousands of products from hundreds of categories, thanks to Open Data sources.

- We have the backoffice tools for administrating this information.

- We have tests with thousands of products and tens of properties, that show that the application works and the work increases linearly.

- It's only a matter of time and/or human resources that we have the application ready with hundreds of properties per product category so that users will notice a real difference with previous attempts to NL user interfaces.

Advantage #3 : inference and deduction

I like fast cars and big houses x
cars transport people from one point to another x
what do you know about cars x

COMMENT: I know that cars transport people from one point to another .
I know that you like cars .

3/3

I like blue cars x
cars transport people from one point to another x
what cars do I like x

COMMENT: You like blue cars .

3/3

I like big cars x
cars are motor vehicles x
what do I like x

COMMENT: You like big cars .
You like cars .
You like some motor vehicles .

3/3

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Future application: information extraction for the semantic web

- *"An automobile, autocar, motor car or car is a wheeled motor vehicle used for transporting passengers, which also carries its own engine or motor." (extracted from Wikipedia)*
- An automobile is a wheeled motor vehicle
- An automobile is a motor vehicle
- An automobile is a vehicle
- An automobile is used for transporting passengers
- An automobile carries its own engine
- Automobiles transport passengers
- Automobiles transport people

In summary …

- The company presents a unique technology: it's not another virtual assistant project! We present a new technology designed to solve specific problems.

- The applications of our technology potentially have a big impact on society and science.

- There are promising disruptive business models that this technology brings us.

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