Rust para potenciar la Inteligencia Artificial

Rust en Español

Sergio Ribera

bento.me/sergioribera

@SergioRibera

/in/sergioribera

Relevancia de la IA

Como tecnologia emergente

DALL·E

BLACKBOX

LLaMA by Meta

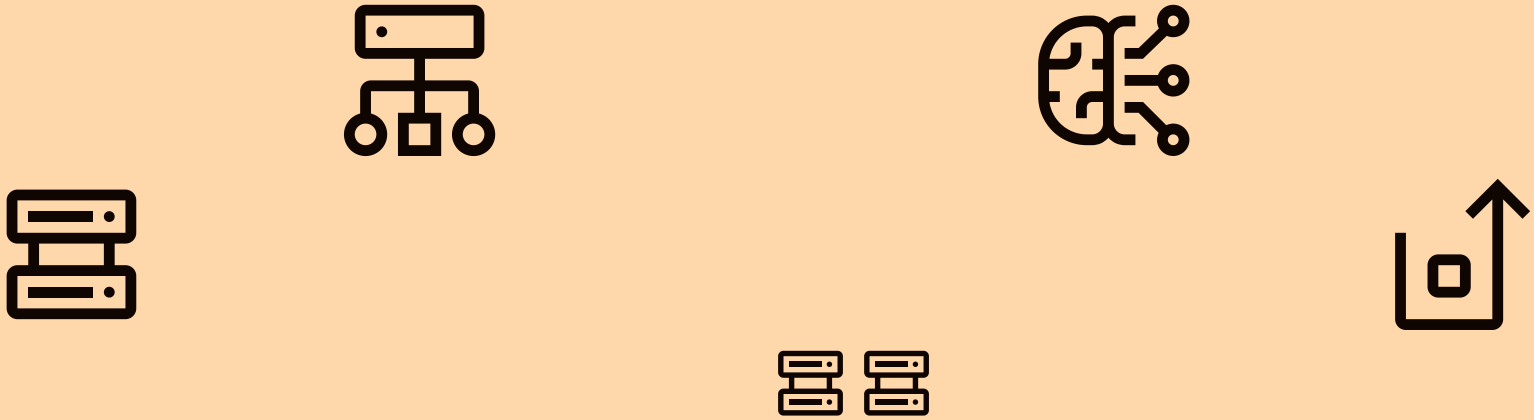
Inversion en los ultimos años

93.5 B $ 121.5 B $ 158.0 B $

Retos en la IA

- Tiempo
- Costos
- Huella de Carbono
- Rendimiento
- Portabilidad

¿Como funciona la IA?



Librerias Actuales

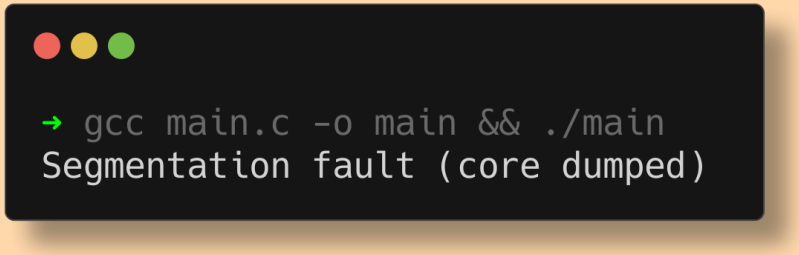
El Problema

```c
#include <stdio.h>

int main() {
    int *ptr = NULL;

    // Intento de escribir en un puntero nulo
    *ptr = 5;

    return 0;
}
```



Librerias para IA

Pandas NumPy

PyTorch TensorFlow

¿Porque Rust?

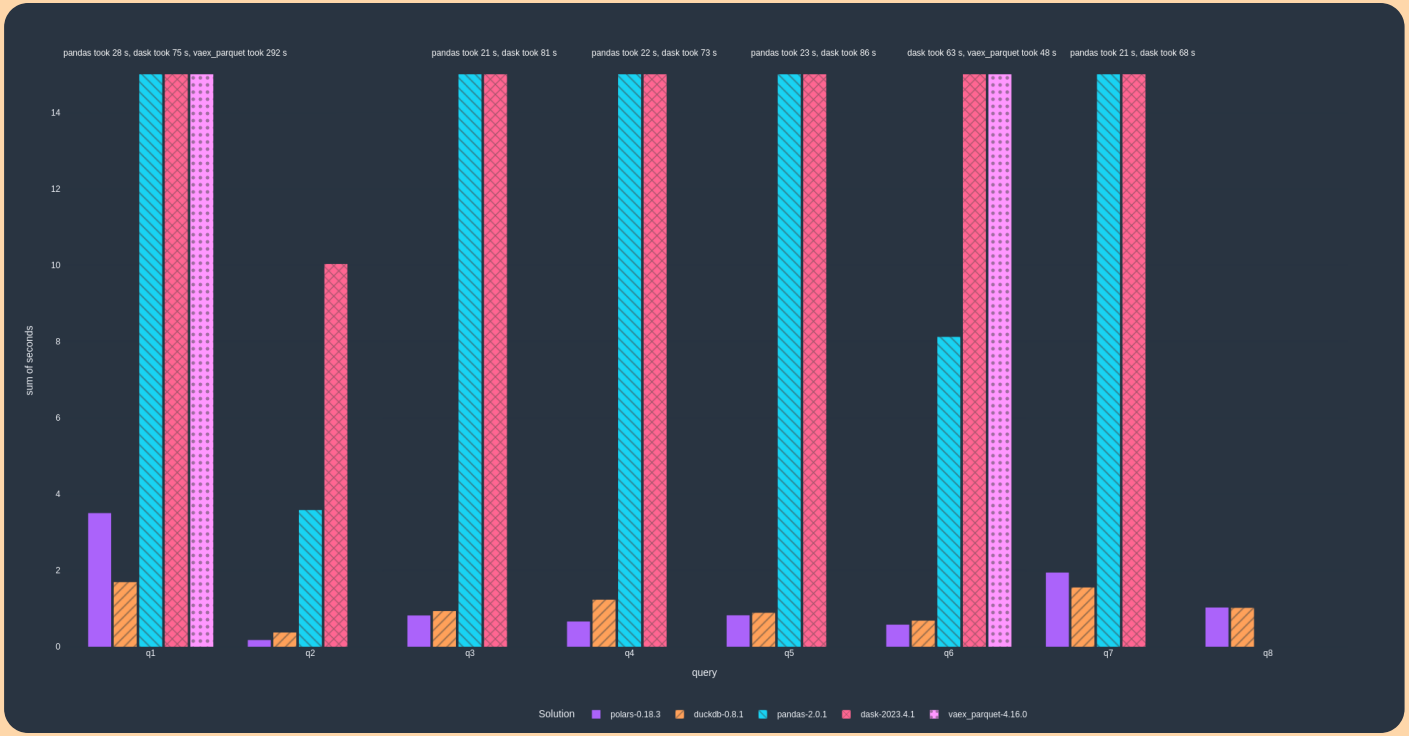
- Multiparadigma
- Herramientas modernas
- Memory safe (null safety, sin fugas de memoria, etc)
- Concurrente de nacimiento
- Sin Garbage Collector
- Abstracciones sin costo
- Enfocado en el rendimiento
- Compilador inteligente

Librerias para IA con Rust

Polars candle

burn leaf

Librerias para IA con Rust



PyO3

Pero, ¿Ya se usa en Inteligencia Artificial?

	Energy
(c) C	1.00
(c) Rust	1.03
(c) C++	1.34
(c) Ada	1.70
(v) Java	1.98
(c) Pascal	2.14
(c) Chapel	2.18
(v) Lisp	2.27
(c) Ocaml	2.40
(c) Fortran	2.52
(c) Swift	2.79
(c) Haskell	3.10
(v) C#	3.14
(c) Go	3.23
(i) Dart	3.83
(v) F#	4.13
(i) JavaScript	4.45
(v) Racket	7.91
(i) TypeScript	21.50
(i) Hack	24.02
(i) PHP	29.30
(v) Erlang	42.23
(i) Lua	45.98
(i) Jruby	46.54
(i) Ruby	69.91
(i) Python	75.88
(i) Perl	79.58

	Time
(c) C	1.00
(c) Rust	1.04
(c) C++	1.56
(c) Ada	1.85
(v) Java	1.89
(c) Chapel	2.14
(c) Go	2.83
(c) Pascal	3.02
(c) Ocaml	3.09
(v) C#	3.14
(v) Lisp	3.40
(c) Haskell	3.55
(c) Swift	4.20
(c) Fortran	4.20
(v) F#	6.30
(i) JavaScript	6.52
(i) Dart	6.67
(v) Racket	11.27
(i) Hack	26.99
(i) PHP	27.64
(v) Erlang	36.71
(i) Jruby	43.44
(i) TypeScript	46.20
(i) Ruby	59.34
(i) Perl	65.79
(i) Python	71.90
(i) Lua	82.91

	Mb
(c) Pascal	1.00
(c) Go	1.05
(c) C	1.17
(c) Fortran	1.24
(c) C++	1.34
(c) Ada	1.47
(c) Rust	1.54
(v) Lisp	1.92
(c) Haskell	2.45
(i) PHP	2.57
(c) Swift	2.71
(i) Python	2.80
(c) Ocaml	2.82
(v) C#	2.85
(i) Hack	3.34
(v) Racket	3.52
(i) Ruby	3.97
(c) Chapel	4.00
(v) F#	4.25
(i) JavaScript	4.59
(i) TypeScript	4.69
(v) Java	6.01
(i) Perl	6.62
(i) Lua	6.72
(v) Erlang	7.20
(i) Dart	8.64
(i) Jruby	19.84

Empresas que usan Rust

Empresas que usan Rust

Rust en Español

RustLangES

rustlanges.github.io

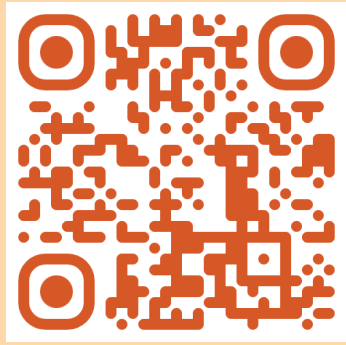
rustlanges.github.io/blog

@RustLangES

discord.gg/4ng5HgmaMg

/company/rustlanges

Web



Github

Blog

Linkedin

Rust en Español