

Fundamentos de Machine Learning para Geometalurgia Python

24 de abril al 4 de mayo 2023

Agenda

Machine Learning basis



Case study

**Univariate
Exploratory Data Analysis (EDA)**

Data Preparation

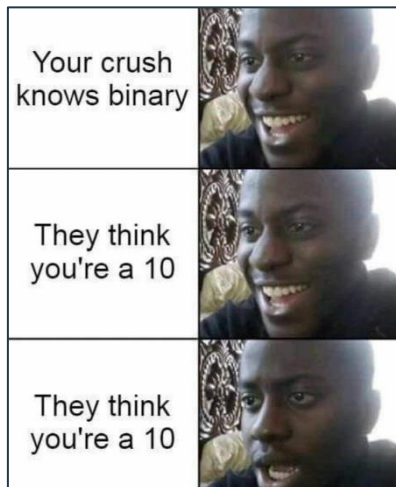
**Regression model (proxy) for
geometallurgical parameter A_i**

Binary Number System

Representation of a number in terms of 0 and 1 only.

position	5	4	3	2	1	0
binary	100010					
	$32 = 1 \times 2^5$	$0 = 0 \times 2^4$	$0 = 0 \times 2^3$	$0 = 0 \times 2^2$	$2 = 1 \times 2^1$	$0 = 0 \times 2^0$
decimal	$32 + 0 + 0 + 0 + 2 + 0 = 34$					

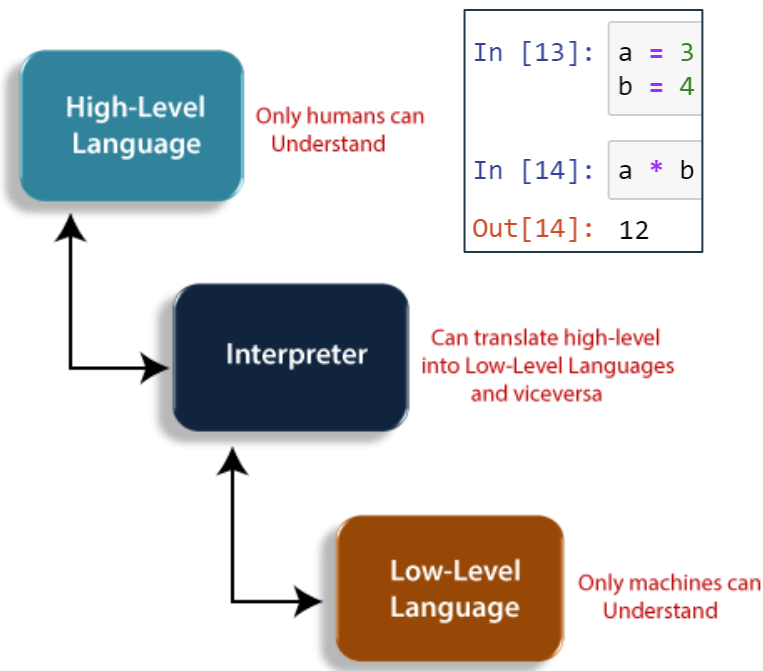
Decimal Number	Binary Number
1	1
2	10
3	11
4	100
5	101



There are 10 kinds of people in this world. Those who understand binary and those who don't.

Python

High-level programming language. Simple, easy to learn syntax emphasizes readability. The Python interpreter and the extensive standard library are freely distributed.



```
In [13]: a = 3  
         b = 4  
  
In [14]: a * b  
  
Out[14]: 12
```

Guido van Rossum



Why learn Python?

👁 Python is an in-demand, accessible programming language with an active, ever-growing community of users.

🔗 It's relatively easy to learn and incredibly versatile, and it's used in a variety of fields.

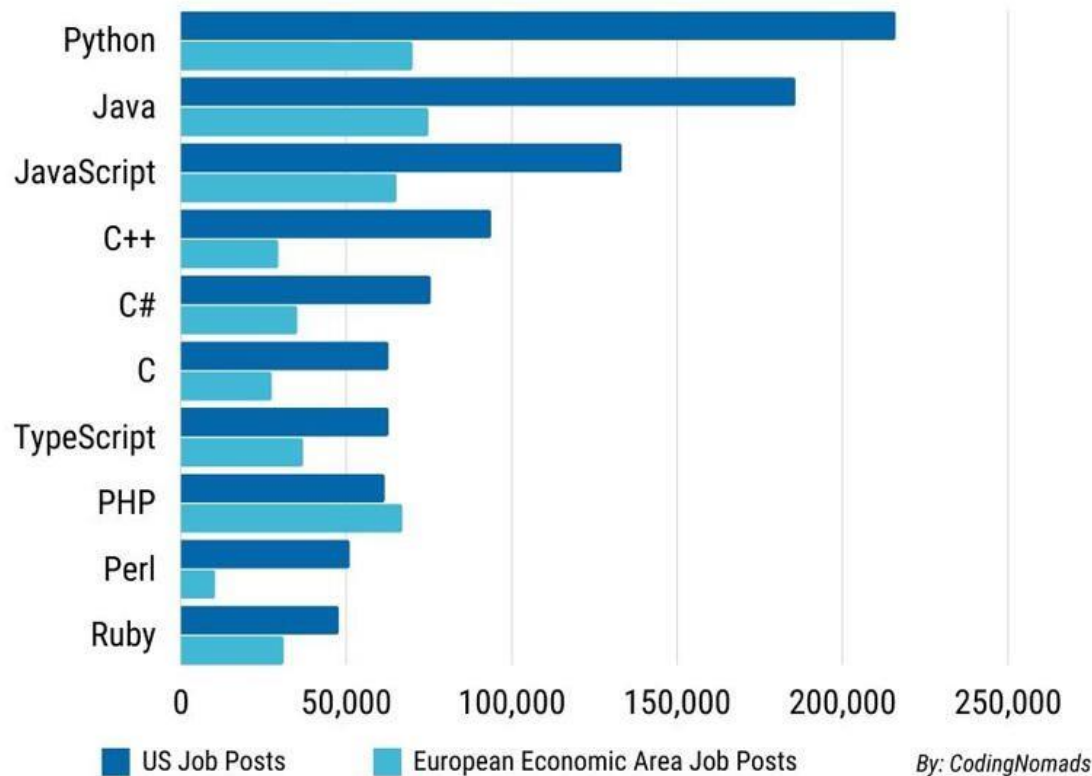
🕵 Python is the most-used programming language for machine learning.

Source: <https://techbootcamps.utexas.edu/blog/why-learn-python-get-startedprogramming/#:~:text=Why%20Learn%20Python%3F-,Five%20Reasons%20to%20Start%20Programming%20With%20Python%20in%202022,a%20great%20place%20to%20start.>

Why learn Python?

Most in-demand programming languages of 2022

Based on LinkedIn job postings in the USA & Europe



Source: <https://www.techrepublic.com/article/the-best-programming-languages-to-learn-in-2022/>

Python official documentation

<https://www.python.org/>

