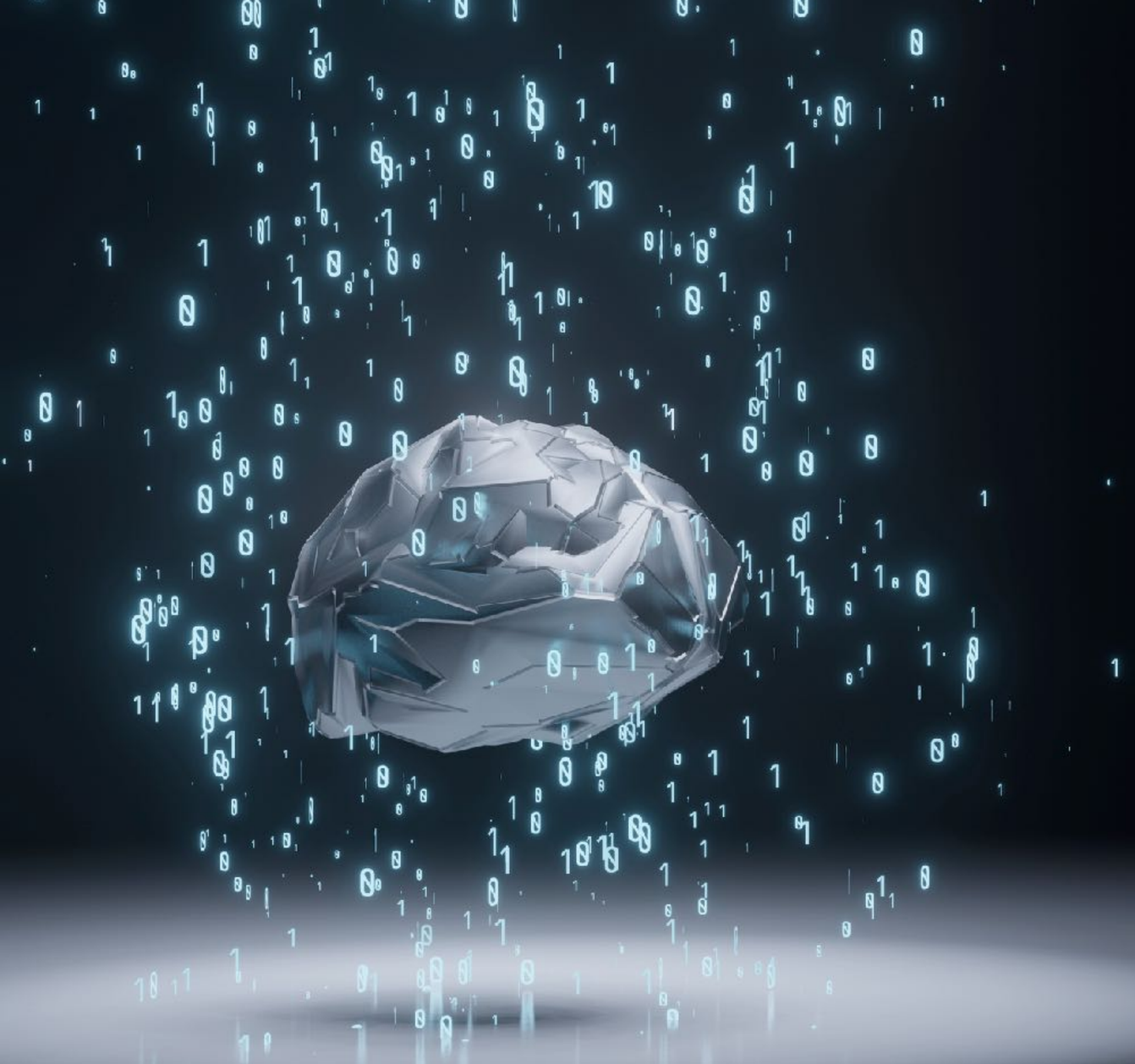

METODOLOGIA CIENTÍFICA

Pense no processo de machine learning como um experimento.

1. Defina o objetivo da pesquisa	Quero prever o congestionamento no trânsito de São Paulo para um determinado dia
2. Faça uma hipótese	Eu acho que o clima é uma informação relevante.
3. Colete dados	Pegue dados históricos do congestionamento e clima para cada dia.
4. Teste sua hipótese	Treine um modelo usando esses dados.
5. Analise seus resultados	Esse modelo é melhor que os sistemas já existentes?
6. Chegue a uma conclusão	Eu (não) deveria usar esse modelo para fazer previsões por causa de X, Y e Z.
7. Refine a hipótese e repita	Época do ano pode ser uma informação relevante.

☆ ☆ ☆ ☆ ☆

The ML Mindset

Send feedback

"Machine Learning changes the way you think about a problem. The focus shifts from a mathematical science to a natural science, running experiments and using statistics, not logic, to analyse its results." - Peter Norvig - Google Research Director

In traditional software engineering, you can reason from requirements to a workable design, but with machine learning, it will be necessary to experiment to find a workable model.

Many machine learning systems produce models that encode knowledge and intelligence by interpreting signals differently than humans do. A neural network might interpret a word via an embedding, so "tree" is understood as something like, [0.37, 0.24, 0.2] and "car" as [0.1, 0.78, 0.9]. The neural network might use these representations to do accurate translations or sentiment analysis, but a human looking at the embeddings would find them very hard to understand. This can make machine intelligence difficult, but not impossible, for humans to understand and evaluate.

Models will make mistakes that are difficult to debug, due to anything from skewed training data to unexpected interpretations of data during training. Furthermore, when machine-learned models are incorporated into products, the interactions can be complicated, making it difficult to predict and test all possible situations. These challenges require product teams to spend a lot of time figuring out what their machine learning systems are doing and how to improve