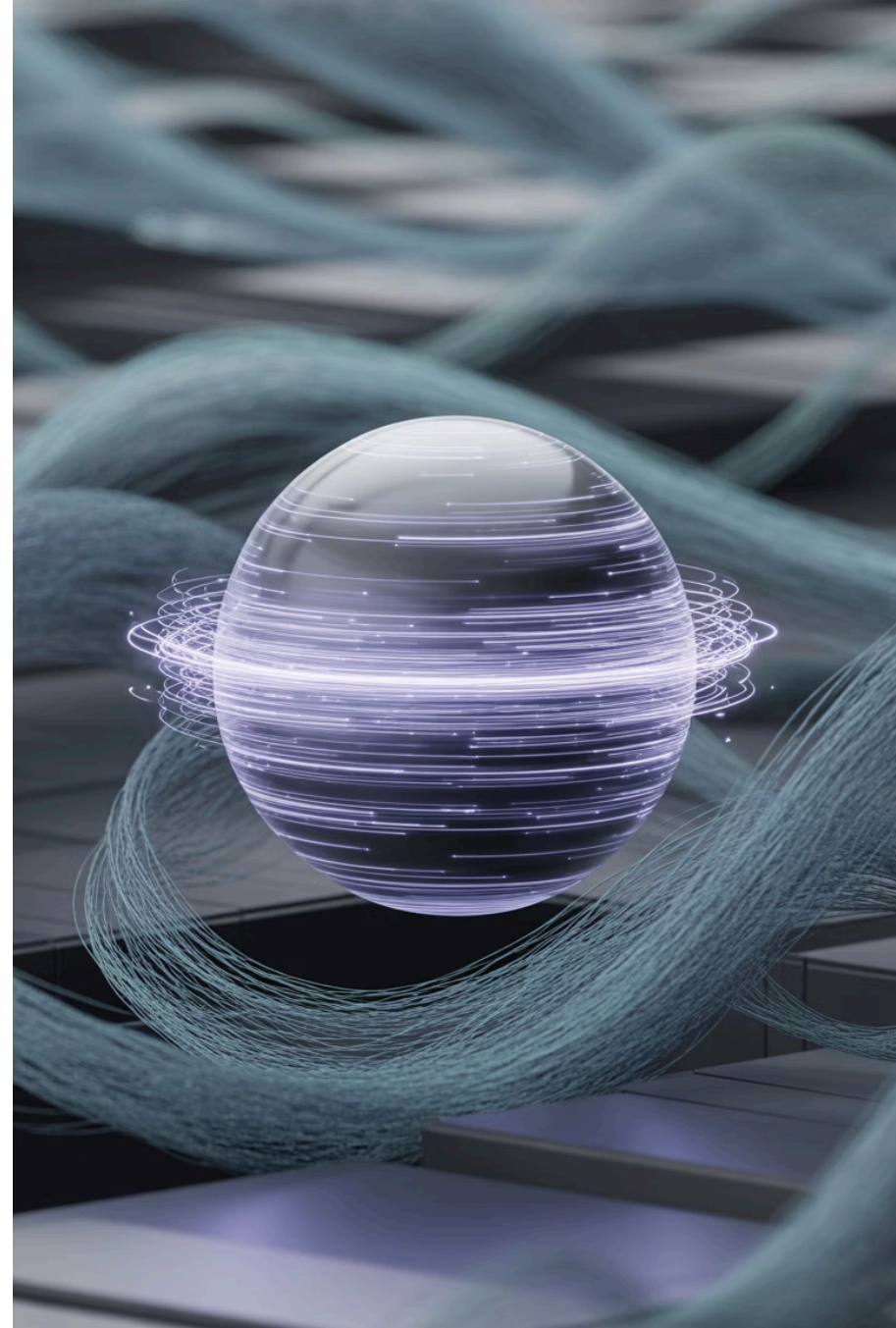


The Secret Language of AI

- Google, Netflix, and ChatGPT all use it.
- But it's not magic. It's numbers.



Why AI Needs a Secret Language

- Computers don't "understand" words like humans.
- Example: "Bat" could mean cricket or animal.
- For AI, words are just letters — confusing!

Synthesis
complete



Turning Words into Numbers

AI changes everything into **vectors** (lists of numbers).

Similar = close numbers. Unrelated = far apart.

Example:

- Coffee → [0.9, 1.2, -0.5]
- Tea → [0.8, 1.1, -0.6] (close)
- Table → [-2.5, 0.3, 4.1] (far)

Context Solves Confusion

Some words change meaning depending on context.

Example: "Bank"

Sentence 1: "Deposit money in the **bank**."

- AI sees **Money, Account, Loan** → close to **Finance**.
- Vector ~ [2.0, -1.1, 0.4]

Sentence 2: "Picnic by the **river bank**."

- AI sees **River, Water, Shore** → close to **Nature**.
- Vector ~ [-0.8, 3.1, 1.0]

Logic: Same word, different number codes depending on nearby words.

AI Knows What Belongs Together

Example:

- Idli $\rightarrow [0.5, 1.0, -0.2]$
- Dosa $\rightarrow [0.6, 1.1, -0.3]$ (close)
- Invoice $\rightarrow [-3.2, 0.8, 2.9]$ (far)

That's why search feels natural and accurate.



Images = Vectors

Example:

- Cat photo $\rightarrow [1.0, -0.5, 2.3]$
- Kitten photo $\rightarrow [1.1, -0.4, 2.4]$ (close)
- Bicycle photo $\rightarrow [-2.0, 3.5, -1.1]$ (far)

Apps can group and suggest similar photos.



Songs Become Numbers

Example:

- Love song $\rightarrow$ [0.7, 2.0, -1.5]
- Romantic ballad $\rightarrow$ [0.8, 2.1, -1.4] (close)
- Heavy rock $\rightarrow$ [-1.9, 0.3, 3.2] (far)

Spotify builds playlists with this trick.





AI in E-commerce

You buy a red shirt → AI suggests jeans or shoes (close items).

Example:

- Red Shirt → [1.5, 0.8, -2.0]
- Jeans → [1.6, 0.9, -2.1] (close)
- Laptop → [-3.0, 4.2, 1.9] (far)

Useful for you, more sales for business.

Why Apps Feel Like They Know You

Example:

- Thriller → [2.0, -1.2, 0.7]
- Another Thriller → [2.1, -1.3, 0.6] (close)
- Cartoon → [-2.5, 3.0, -1.8] (far)

Netflix suggests what *you* like, not random picks.



It's Not Magic — Just Math

Words, pictures, songs → all become numbers.

Example:

- Coffee → [0.9, 1.2, -0.5]
- Espresso → [0.95, 1.3, -0.6] (close)
- Car → [-2.1, 0.7, 3.5] (far)

This number trick makes AI feel human-like.

Why This Is Better

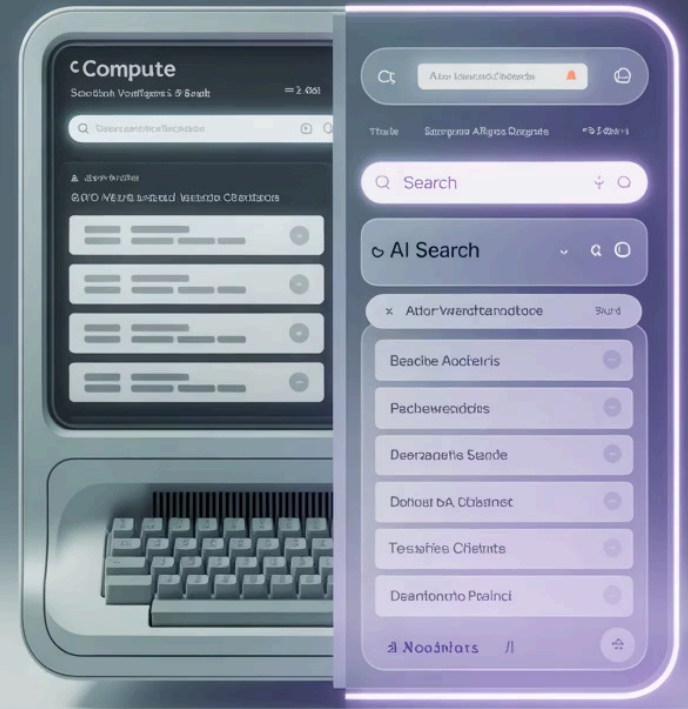
Old search:

"Car repair" only matched exact words.

AI search:

"Fix my vehicle" also finds **car repair**.

Benefit: Smarter results, even with different words.



The Secret Language of AI — Recap

-  Words, pictures, songs → numbers.
-  Close numbers = related. Far numbers = unrelated.
-  Context decides meaning.
-  Apps learn your likes → smarter suggestions.
-  Businesses grow with personalisation.