

Why did AI freeze over twice? — Two AI winters

Five-Minute AI Lessons · Sep 18, 2026

What collapsed wasn't the tech — it was promises that outgrew it

In a nutshell

- 1 In 1969, Minsky and Papert proved with math that there are **problems a single layer of neurons can't solve**. Funding and people drained away — that was the first winter.
- 2 In the 1980s, **expert systems** — people writing out every rule by hand — were all the rage, but step a little outside the given situations and they got it wrong. In 1987, that market collapsed completely.
- 3 Both times the reason was the same. AI didn't suddenly get dumb — **the promises had gotten ahead of the skills**.

Two peaks, two valleys



The peaks were always built by promises; the valleys came when those promises weren't kept.

Key idea: what collapsed wasn't the tech — it was promises that outgrew it

Winter always comes in the same order

1958 → 69

First winter

- 1 A self-teaching machine
- 2 'Human-like in a few years'
- 3 One layer's limit is proven
- 4 Funding gets cut

Promise first, limits later — the money left first.

1980 → 87

Second winter

- 1 Thousands of rules by hand
- 2 Aces the written cases
- 3 Slight change: all wrong
- 4 Its special market collapses

It hadn't learned — it had been dictated to.

1986 → 2012

How spring comes

- 1 How to stack and fix layers
- 2 Graphics cards + big data
- 3 Scores suddenly jump
- 4 People rush back

When skill caught up with the promise, winter ended.

All three stories have the same shape — promise, limit, exit. And when skill catches up, spring.

Sources: Minsky, Papert, Perceptrons (MIT Press, 1969) · Rumelhart, Hinton, Williams, Nature 323(6088) 533-536 (1986)

Just three questions

Q1

What did Minsky and Papert's 1969 book prove?

- ① Computers calculate faster than people
- ② Some problems a one-layer perceptron can't solve
- ③ Bigger neural nets are always better
- ④ You should never give AI written rules

Q2

What was the biggest reason 1980s expert systems collapsed?

- ① They used too much electricity
- ② Rules were hand-written, so new cases broke them
- ③ There was no internet yet
- ④ Nobody was interested

Q3

What do both AI winters teach us?

- ① AI just doesn't work
- ② Overpromising brings winter
- ③ Money alone always wins
- ④ New theories bring winter

Know the why, too

Q1

②

It nailed down, with math, that some problems — like XOR — can't be split with a single line. This one book set off the first winter.

Q2

②

It hadn't learned anything — it had been dictated to. Without the 'learning that fixes itself' from DAY 04, it can only do exactly what it was told.

Q3

②

Both times, the tech didn't go backward — people left because promises that had grown too fast weren't kept. It's a yardstick you can use on today's AI news too.

**Winter didn't come because AI was bad —
it came because the promises got ahead of the skills.**



So who ended the second winter? Tomorrow: 2012, when one photo-guessing contest flipped the whole game — deep learning comes back.