DAY 12 · Part 2 · How We Got Here

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.**

In one picture

Two peaks, two valleys

1958 · first peak
A self-teaching machine arrives
‘Human-like in a few years’

1969 · the wall
Proof: some problems
one layer can't solve

1st winter
1974–80

1985 · second peak
Boom in expert systems
with hand-written rules

1987 · collapse
A little different,
and it's all wrong

2nd winter · 1987–93
Both times, funding was cut first

How spring comes
1986 how to stack and fix layers → 2012 graphics cards and big data → scores jump

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)

Quick check

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

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

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

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.