The Danger of Overfitting

Good Learning: Understanding

Training Examples

2+2=4

3+3=6

4+4=8

↓ Learns Pattern ↓

Understands: "Add same number twice"

New Problem: 7+7 = ?   □ **14**

Overfitting: Memorization

Training Examples

2+2=4

3+3=6

4+4=8

↓ Memorizes Answers ↓

Memorized: "2+2=4, 3+3=6, 4+4=8"

New Problem: 7+7 = ?   □ **???**