

The Birth of Machine Learning: A Transformative Force This PDF version includes all text and source links from the infographic. Image URLs are included because external images cannot be embedded without internet access.

- 1.** Frank Rosenblatt's 1957 Perceptron laid the foundation for neural networks. Source: <https://plato.stanford.edu/entries/neural-networks/>
- 2.** The XOR problem (1969) revealed limits in simple networks, motivating multi-layer architectures. Source: <https://ieeexplore.ieee.org/document/4082120>
- 3.** Backpropagation (1986) enabled deep learning. Source: <https://www.nature.com/articles/323533a0>
- 4.** ImageNet (2009) revolutionized dataset-driven ML research. Source: <https://image-net.org/>
- 5.** AlexNet (2012) proved GPU-accelerated deep learning. Source: <https://proceedings.neurips.cc/paper/2012/hash/c399862d3b9d6b76c8436e924a68c45b-Abstract.html>
- 6.** TPUs (2016) reshaped hardware design. Source: <https://arxiv.org/abs/1704.04760>
- 7.** Transformers (2017) introduced attention mechanisms. Source: <https://arxiv.org/abs/1706.03762>
- 8.** ML energy consumption drives green computing research. Source: <https://arxiv.org/abs/1906.02243>
- 9.** ML underpins autonomous vehicles, NLP, fraud detection, and more. Source: <https://www.sciencedirect.com/science/article/pii/S2666827021000155>