

The 1986 Breakthrough: Rumelhart, Hinton & Williams

David Rumelhart

UC San Diego

Cognitive Science
PDP Framework



Geoffrey Hinton

CMU/Toronto

Boltzmann Machines
"Godfather of DL"



Ronald Williams

Northeastern

REINFORCE Algorithm
RL Pioneer



Nature (1986)

"Learning representations by back-propagating errors"

Vol. 323, pp. 533-536

Key Contributions:

- Made backpropagation accessible
- Demonstrated hidden representations
- Showed MLPs learn meaningful features
- Provided practical training algorithms
- Launched the connectionist revolution

This paper is one of the most cited in all of computer science (100,000+ citations)