

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) ICS 8506			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Institute for Cognitive Science		6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) C-015 University of California, San Diego La Jolla, CA 92093			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Personnel & Training Research		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER N00014-85-K-0450		
8c. ADDRESS (City, State, and ZIP Code) Code 1142 PT Office of Naval Research 800 N. Quincy St., Arlington, VA 22217-5000			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			NR 667-548		WORK UNIT ACCESSION NO
11. TITLE (Include Security Classification) Learning Internal Representations by Error Propagation					
12. PERSONAL AUTHOR(S) David E. Rumelhart, Geoffrey E. Hinton, and Ronald J. Williams					
13a. TYPE OF REPORT Technical		13b. TIME COVERED FROM Mar 85 to Sept 85		14. DATE OF REPORT (Year, Month, Day) September 1985	
				15. PAGE COUNT 34	
16. SUPPLEMENTARY NOTATION To be published in J. L. McClelland, D. E. Rumelhart, & the PDP Research Group, Parallel Distributed Processing: Explorations in the Microstructure of Cognition: Vol 1. Foundations. Cambridge, MA: Bradford Books/MIT Press.					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	learning; networks; perceptrons; adaptive systems; learning machines; back propagation		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					