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Prahlad Gupta

Psychological and Brain Sciences

Curriculum Vitae

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EDUCATION AND PROFESSIONAL HISTORY

Higher Education

1995	**PhD**, Cognitive Psychology, Carnegie Mellon University
1991	**MS**, Computational Linguistics, Carnegie Mellon University
1982	**MBA**, Business Administration, University of Delhi
1980	**BA**, Economics, University of Delhi

Professional and Academic Positions

2005 - Present	**Associate Professor**, Psychological and Brain Sciences, University of Iowa
1999 - 2005	**Assistant Professor**, Psychological and Brain Sciences, University of Iowa
1996 - 1998	**Beckman Research Fellow**, Beckman Institute for Advanced Science & Technology, University of Illinois at Urbana-Champaign
1991 - 1995	**Graduate Research Fellow**, Department of Psychology, Carnegie Mellon University
1991	**Researcher**, Neural Network Modeling, Department of Psychology, Carnegie Mellon University
1989 - 1990	**Researcher**, Neural Network Modeling, Learning Research and Development Center, University of Pittsburgh
1989	**Researcher**, AAAI Thesaurus Project, Laboratory for Computational Linguistics, Carnegie Mellon University
1985 - 1988	**Research Fellow**, Artificial Intelligence/Management Information Systems, Indian Institute of Management
1982 - 1985	**Assistant Manager**, Marketing, Tata Exports Ltd

Honors and Awards

1996 - 1999	**Beckman Fellowship**, Beckman Institute for Advanced Science & Technology, University of Illinois at Urbana-Champaign
1995	**Edwin B. Newman Graduate Research Award**, American Psychological Association & Psi Chi, best paper by a graduate student in psychology,
1995	**Pauline B. Adamson Award for Excellence in Writing**, Department of English, Carnegie Mellon University, 2nd prize,Writing for Professional Journals
1994	**McDonnell Summer Insitute in Cognitive Neuroscience**
1993	**Connectionist Models Summer School**
1988 - 1989	**Andrew Melon Pre-doctoral Fellowship**, University of Pittsburgh/Carnegie Mellon University, Computational Linguistics Program
1988 - 1989	**Research Fellowship**, Indian Institute of Management

Memberships

Psychonomic Society

TEACHING

Courses Taught at the University of Iowa

- Research Methods and Data Analysis in Psychology II
- Introduction to Cognitive Psychology
- Neural Networks in Psychology
- Seminar: Cognitive Science
- Seminar: Language and Memory
- Experimental Research Methods

SCHOLARSHIP

Publications

CLAS * System * = Senior Author, Major Contribution, ** = Secondary Contribution *** = Equal Contribution, **** = Minor Contribution

Refereed Articles

1. ***Zhao, L., Packard, S., McMurray, B., Gupta, P. (2019). Similarity of Referents Influences the Learning of Phonological Word Forms.
2. *** Kapnoula, E., Packard, S., McMurray, B., Gupta, P. (2015). Immediate Lexical Integration of Novel Word Forms. *Cognition*, *134*, 85-99.
3. *** Zhao, L., Cosman, J., Vatterot, D., Gupta, P., Vecera, S. (2014). Visual Statistical Learning Can Drive Object-Based Attentional Selection. *Attention, Perception & Pschophysics*, *76*, 2240-2248.
4. * Gupta, P., Tisdale, J. (2009). Does phonological short-term memory causally determine vocabulary learning? Toward a computational resolution of the debate., *61*, 481-502.
5. * Gupta, P., Tisdale, J. (2009). Word Learning, Phonological STM, Phonotactic Probability, and Long-Term Memory: Toward An Integrated Framework. *Transactions of the Royal Philosphical Society B*, *364*, 3755-3771.
6. *** Abbs, B., Gupta, P. (2008). Does Overt Repetition Facilitate Word Learning? *Applied Psycholinguistics*, *29*, 627-667.
7. ** Graves, W. W., Grabowski, T. J., Mehta, S., Gupta, P. (2008). Left posterior superior temporal gyrus participates specifically in accessing lexical phonology. *Journal of Cognitive Neuroscience*, *20*, 1698-1710.
8. * Gupta, P. (2008). The Role of Computational Models in Investigating Typical and Pathological Behaviors. *Seminars in Speech and Language*, *29*, 211-225.
9. * Gupta, P., Martin, N., Abbs, B., Schwartz, M., Lipinski, J. (2006). New word learning in aphasic patients: Dissacociating phonological and semantic components. *Brain and Language*, *99*, 8-9.
10. * Gupta, P. (2006). Nonword repetition, phonological storage, and multiple determination. *Applied Psycholinguistics*, *27*, 564-568.
11. *** Lipinski, J., Gupta, P. (2005). Does neighborhood density influence repetition latency for nonwords? Separating the effects of density and duration. *Journal of Memory and Language*, *52*, 171-192.
12. * Gupta, P. (2005). Primacy and regency in nonword repetition. *Memory*, *13*, 318-324.
13. * Gupta, P., Lipinski, J., Aktunc, M. E. (2005). Re-examining the phonological similarity effect in immediate serial recall: The roles of type of similarity, category cueing, and item recall. *Memory & Cognition*, *33*, 1001 - 1016.
14. * Gupta, P., Lipinski, J., Abbs, B., Lin, P. H. (2005). Serial position effects in nonword repetition. *Journal of Memory and Language*, *53*, 141-162.
15. * Gupta, P. (2005). What's in a word? A functional analysis of word learning. *Perspectives on Language Learning and Education*, *12*, 4-8.
16. * Martin, N., Gupta, P. (2004). Exploring the Relationship Between Word Processing and Verbal Short-Term Memory: Evidence from Association and Dissociation. *Cognitive Neuropsychology*, *21*,

213-228.

17. * Gupta, P., Lipinski, J., Abbs, B., Lin, P. H., Aktune, M. E., Ludden, D., Martin, N., Newman, R. (2004). Space Aliens and Nonwords: Stimuli for Investigating the Learning of Novel Word-Meaning Pairs. *Behavioral Research Methods, Insturments, and Computers*, *36*, 599-603.
18. ** Lambert, B., Chang, K. Y., Gupta, P. (2003). Effects of Frequency and Similarity Neighborhood on Pharmacists' Visual Perceptions of Drug Names. *Social Science and Medicine*, *57*, 1939-1955.
19. * Gupta, P. (2003). Examining word learning, nonword repetition, and immediate serial recall in adults. *Quarterly Journal of Experimental Psychology*, *56A*, 1213-1236.
20. * Gupta, P., MacWhinney, B., Feldman, H., Sacco, K. (2003). Phonological memory and vocabulary learning in children with focal lesions. *Brain and Language*, *87*, 241-252.
21. * Gupta, P., Cohen, N. J. (2002). Theoretical and computational analysis of skill learning, repetition priming, and procedural memory. *Psychological Review*, *109*, 401-448.
22. * Gupta, P., MacWhinney, B. (1997). Vocabulary Acquisition and verbal short-term memory: Computational and neural bases. *Brain and Language*, *59*, 267-333.
23. Gupta, P. (1996). Verbal short-term memory and language processing: A computational model. *Brain and Language*, *55*, 194-197.
24. * Gupta, P., MacWhinney, B. (1995). Is the articulatory loop articulatory or auditory? Re-examining the effects of concurrent articulation on immediate serial recall. *Journal of Memory and Language*, *34*, 63-88.
25. * Gupta, P. (1994). Commentary on Daelemans et. al, The acquisition of stress: A data-oriented approach. *Computational Linguistics*, *20*(3), 452.
26. * Gupta, P., Touretzky, D. S. (1994). Connectionist models and linguistic theory: Investigations of stress systems in language. *Cognitive Science*, *18*, 1-50.

Book Chapters

1. * Gupta, P. (2012). Word Learning as the Confluence of Memory Mechanisms: Computational and Neural Evidence. M. Faust (Ed.), *Handbook of Neuropsychology of Language* (pp. 146-163). Chichester: Wiley-Blackwell.
2. * Gupta, P. (2009). A computational model of nonword repetition, immediate serial recall, and nonword learning. A. Thorn & M. Page (Eds.), *Interactions Between Short-Term and Long-Term Memory in the Verbal Domain* (pp. 108-135). Hove: Psychology Press.
3. * Gupta, P., Dell, G. S. (1999). The emergence of language from serial order and procedural memory. B. MacWhinney (Ed.), *The Emergence of Language, 28th Carnegie Mellon Symposium on Cognition*. Hillsdale, NJ: Lawrence Erlbaum.
4. * Gupta, P. (1994). Investigating phonological representations: A modeling agenda. M. C. Mozer, P. Smolensky, D. S. Touretzky, J. L. Elman, & A. S. Weigend (Eds.), *Proceedings of the 1993 Connectionist Models Summer School* (pp. 113-121). Hillsdale, NJ: Lawrence Erlbaum.

Conference Proceeding

1. *** Newman, R., Samuelson, L., Gupta, P. (2008). Learning Novel Neighbors: Distributed Mappings Help Children and Connectionist Networks. *Proceedings of hte Thirtieth Annual Conference of the Cognitive Science Society* (pp. 29-34). Mahwah: Lawrence Erlbaum.
2. *** Abbs, B., Gupta, P. (2007). A Behavioral and Computational Integration of Phonological, Short-Term Memory, and Vocabulary Acquisition Processes in Nonword Repetition. *Proceedings of the 29th Annual Conference of the Cognitive Science Society* (pp. 59-64). Mahwah: Lawrence Erlbaum.
3. *** Abbs, B., Gupta, P. (2006). Learning melodic expectancy: Musical predictability in an SRN. *Proceedings of the 28th Annual Conference of the Cognitive Science Society* (pp. 931-936). Mahwah: Lawrence Erlbaum.
4. * Gupta, P. (2004). Why is word learning related to list memory? Empirical and Neuropsychological tests of a Computational Account. D. Genter, K. Forbus, & T. Regier (Eds.), *Proceedings of the 26th Annual Conference of the Cognitive Science Society* (pp. 27). Mahwah, NJ: Lawrence Erlbaum.
5. * Gupta, P., Lipinski, J. (2002). Statistical Learning, Implicit Memory, and Phonology. W. Gray & C. Schunn (Eds.), *Proceedings of the 24th Annual Conference of the Cognitive Science Society* (pp. 39). Mahwah, NJ: Lawrence Erlbaum.
6. *** Ludden, D., Gupta, P. (2000). Zen in the art of language acquisition: Statistical learning and the Less is More hypothesis. L. R. Gleitman & A. K. Joshi (Eds.), *Proceedings of the 22nd Annual Conference of the Cognitive Science Society* (pp. 812-817). Hillsdale, NJ: Lawrence Erlbaum.

7. * Gupta, P. (1996). Word learning and verbal short-term memory: A computational account. G. W. Cottrell (Ed.), *Proceedings of the Eighteenth Annual Meeting of the Cognitive Science Society* (pp. 189-194). Hillsdale, NJ: Lawrence Erlbaum.
8. * Gupta, P., Moser, M. C. (1993). Exploring the nature and development of phonological representations. *Proceedings of the Fifteenth Annual Conference of the Cognitive Science Society* (pp. 516-521). Hillsdale, NJ: Lawrence Erlbaum.
9. * Gupta, P., MacWhinney, B. (1993). Is the phonological loop articulatory or auditory? *Proceedings of the Fifteenth Annual Conference of the Cognitive Science Society* (pp. 510-515). Hillsdale, NJ: Lawrence Erlbaum.
10. * Gupta, P., Touretzky, D. S. (1992). A connectionist learning approach to analyzing linguistic stress. J. Moody, S. Hanson, & R. Lippmann (Eds.), *Advances in Neural Information Processing Systems 4* (pp. 225-232). San Mateo, CA: Morgan Kaufmann.
11. * Gupta, P., MacWhinney, B. (1992). Integrating category acquisition with inflectional marketing: A model of the German nominal system. *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society* (pp. 253-258). Hillsdale, NJ: Lawrence Erlbaum.
12. *** Gupta, P., Schneider, W. (1991). Attention, automaticity and priority learning. *Proceedings of the Thirteenth Annual Conference of the Cognitive Science Society* (pp. 534-539). Hillsdale, NJ: Lawrence Erlbaum.
13. * Gupta, P., Touretzky, D. S. (1991). What a perceptron reveals about metrical phonology. *Proceedings of the Thirteenth Annual Conference of the Cognitive Science Society* (pp. 334-339). Hillsdale, NJ: Lawrence Erlbaum.

Technical Report

1. Gupta, P. (1996). *Immediate Serial Memory and Language Processing: Beyond the Articulatory Loop*. Urbana: Beckman Institute, Cognitive Science Group.
2. * Gupta, P., Touretzky, D. S. (1993). *Connectionist Models and Linguistic Theory: Investigations of Stress Systems in Language*. Pittsburgh: Carnegie Mellon University, School of Computer Science.
3. *** Gupta, P. (1990). *Attention, Automaticity & Priority Learning*. Pittsburgh: University of Pittsburgh, Learning Research & Deveopment Center.
4. Gupta, P. (1990). *Stress Sytems in Language: A Connectionist Examination*. Pittsburgh: Carnegie Mellon University, Laboratory for Computational Linguistics.
5. Gupta, P. (1987). *Natural Language Processing: An Overview and Examination of Some Issues*. Calcutta: Indian Institute of Management Calcutta.

Grants and Contracts

Funded

Jan 2014 - Dec 2017 *The Role of Input in Morphological Learning*
Funded by National Institutes of Health. Investigator/s A. Van Horne (Principal Investigator), P. Gupta (Consultant). K Award to A. Van Horne. I play mentor role and major role in computational aspects of pilot data for the application and research activity now ongoing under the award

Jan 2012 - Dec 2015 *Memory and Word Learning*
Funded by National Institues of Health. Award amount: ($1,500,000.00). Investigator/s Karla McGregor (Principal Investigator), Prahlad Gupta (Investigator). Grant No. 1 R01 DC011742-01 A1

Aug 2005 - Jul 2010 *The Genetics of Specific Language Impairment*
Funded by National Institues of Health. Award amount: ($2,000,000.00). Investigator/s J. Bruce Tomblin (Principal Investigator), Prahlad Gupta (Investigator).

Dec 2005 - Nov 2008 *Lexical Retrieval, Verbal Short-Term Memory, and Learning*
Funded by National Institues of Health. Award amount: ($293,190.00). Investigator/s Prahlad Gupta, Nadine Martin (Principal Investigator). Grant No. 2 ROI DC01924, under subcontract from Temple University, Philadelphia, PA

Sep 2003 - Aug 2007 *Short-Term and Long-Term Memory Systems in Word Learning*

Funded by National Institues of Health. Award amount: ($885,000.00). Investigator/s Prahlad Gupta (Principal Investigator). Grant No. NIDCD R01 DC006499

Aug 1999 - Jun 2004 *Lexical Retrieval, Verbal Short-Term Memory, and Learning*
Funded by National Institues of Health. Award amount: ($259,234.00). Investigator/s Prahlad Gupta. Grant No. 2 ROI DC1924, under subcontract from Temple University, Philadelphia, PA

Jan 1999 - Dec 2000 *Theory and Methods for Minimizing Look-Alike and Sound-AlikeMedication Errors*
Funded by National Patient Safety Foundation of the American Medical Association. Award amount: ($7,481.00). Investigator/s Prahlad Gupta (Co-Principal). Under subcontract No. 99-2-085-3 from the University of Illinois at Chicago

Jan 2000 - Jun 2000 *Memory Mechanisms and Vocabulary Learning*
Funded by University of Iowa CIFRE grant. Award amount: ($9,830.00). Investigator/s Prahlad Gupta.

Jan 1999 - Dec 1999 *Effects of Prescribing Frequency, Neighborhood Frequency, and Neighborhood Density on Visual Perception of Drug Names*
Funded by Latiolais Leadership Program Grants Program, College of Pharmacy, Ohio State University. Award amount: ($4,928.00). Investigator/s Prahlad Gupta (Co-Principal). Subcontract No. 99-2-081-1 from the University of Illinois at Chicago

Apr 1995 - Mar 1997 *Vocabulary Acquisition andWorkingMemory Following Early Left Focal Lesions: Evaluation and Interventions*
Funded by Social and Behavioral Sciences Research Grant. Award amount: ($69,107.00). Investigator/s Prahlad Gupta. Grant no. 12-FY95-0418, March of Dimes Birth Defects Foundation

Aug 1994 - Jul 1996 *The Neural Bases of Working Memory Rehearsal and Maintenance*
Funded by McDonnell-Pew Program in Cognitive Neuroscience Grant. Award amount: ($59,336.00). Investigator/s Prahlad Gupta. Grant No. 94-32, James S. McDonnell Foundation