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Descrizione fisica	1 online resource (ix, 276 pages) : illustrations (some color)
Collana	Progress in neural processing ; ; volume 21
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Soggetti	Neural networks (Neurobiology) Cognition Neural stimulation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface; Contents; Language; Modelling Language - Vision Interactions in the Hub and Spoke Framework; 1. Introduction; 2. Virtues of the Hub & Spoke Framework; 3. A Hub & Spoke Model of Language Mediated Visual Attention; 3.1. Language Mediated Visual Attention & The Visual World Paradigm; 3.2. Method; 3.2.1. Network; 3.2.2. Artificial Corpus; 3.2.3. Training; 3.2.4. Pre-Test; 3.3. Results; 3.3.1. Simulation of Phonological Effects; 3.3.2. Simulation of Visual Effects; 3.3.3. Simulation of Semantic Effects; 4. Discussion; References Modelling Letter Perception: The Effect of Supervision and Top-Down Information on Simulated Reaction Times1. Introduction; 2. Method; 2.1. Simulations; 2.2. Neural Network Algorithms; 2.2.1. Restricted Boltzmann Machines; 2.2.2. Training a Deep-Belief Network; 2.2.3. Delta-Rule and Back-Propagation; 2.2.4. Simulating Reaction Times; 2.3. Human Reaction Time Data; 3. Results; 4. Conclusions; References; Encoding Words into a Potts Attractor Network; 1. Introduction; 2. BLISS: The Training Language; 3. Potts Attractor Network: a Simplified Model of the Cortex 4. Implementation of Word Representation in the Potts Network4.1. Semantic Representation; 4.2. Syntactic Representation; 5. Discussion;

References; Unexpected Predictability in the Hawaiian Passive; 1. Introduction; 2. Data; 3. Methods; 3.1. Pre-processing; 3.2. The model; 3.3. Error measures; 3.3.1. Mean Squared Error; 3.3.2. Classification Error; 3.4. Baseline estimates; 3.4.1. Random guess: adaptation to the range of target values; 3.4.2. Weighted guess: adaptation to the distribution of target values; 4. Results; 5. Conclusion;

Acknowledgements; References

Difference Between Spoken and Written Language Based on Zipf 's Law

Analysis1. Introduction; 2. Methods; 3. Results; 3.1. Log- log frequency vs. rank plots; 3.2. Five most frequent words in 1-, 2-, and 3-grams;

3.3. Exponent of rank; 4. Discussion; Acknowledgments; References;

Reading Aloud is Quicker than Reading Silently: A Study in the Japanese Language Demonstrating the Enhancement of Cognitive Processing by Action; 1. Introduction; 2. Material and Methods; 3. Results; 4.

Discussion; References; Development; Testing a Dynamic Neural Field Model of Children's Category Labelling

1. Introduction2. Simulation; 2.1. Dynamic Neural Fields; 2.2.

Categorisation by Shared Features; 2.3. Method; 2.3.1. Architecture;

2.3.2. Stimuli; 2.3.3. Design and Procedure; 2.3.4. Results and

Discussion; 3. Experiment; 3.1. Method; 3.1.1. Participants; 3.1.2.

Stimuli; 3.1.3. Procedure and Design; 3.2. Results and Discussion; 4.

General Discussion; References; Theoretical and Computational Limitations in Simulating 3- to4-Month-Old Infants' Categorization

Processes; 1. Introduction; 2. Simulation 1. Reproduction of the asymmetric categorization effect; 2.1. Stimuli

2.2. Neural network procedure

Sommario/riassunto

Computational Models of Cognitive Processes collects refereed versions of papers presented at the 13th Neural Computation and Psychology Workshop (NCPW13) that took place July 2012, in San Sebastian (Spain). This workshop series is a well-established and unique forum that brings together researchers from such diverse disciplines as artificial intelligence, cognitive science, computer science, neurobiology, philosophy and psychology to discuss their latest work on models of cognitive processes.
