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Neurally-informed Graph-based Models of Knowledge Representation

Columbia University

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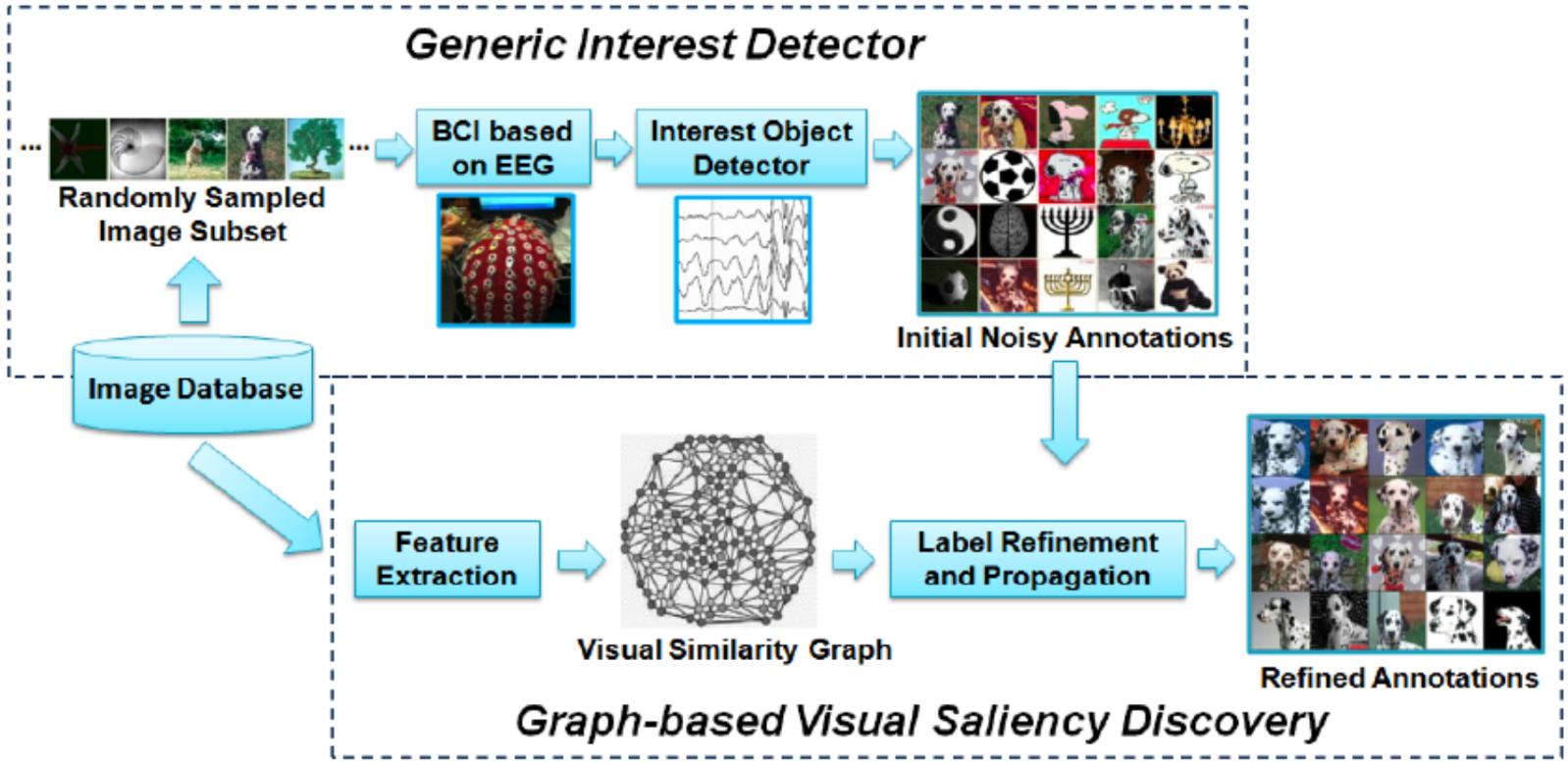
Organizing Data Representations Using Neural Markers of Intent



Wang et. al., 2009; Sajda et al, 2010; Pohlmeyer et al, 2011

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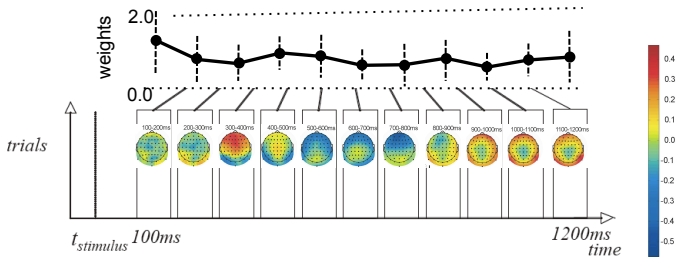
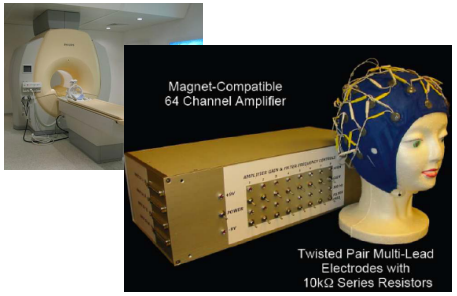
Our Unique Expertise

Single-trial analysis of EEG

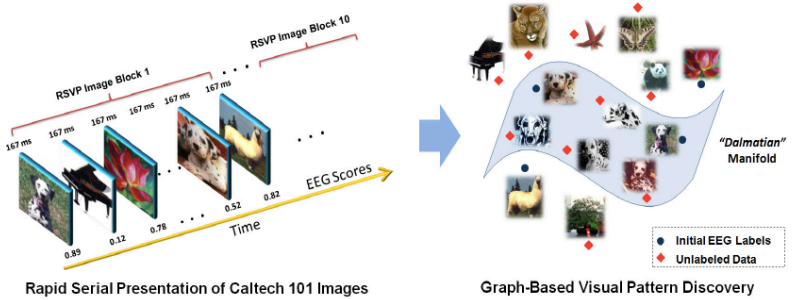


$$\mathbf{y}(t) = \mathbf{w}_\tau^T \mathbf{x}(t) \qquad \tau = \left\{ t_s - \frac{\delta}{2} \ldots t_s + \frac{\delta}{2} \right\}$$

Simultaneous acquisition and analysis of EEG/fMRI



Integration of neural markers with graph-based transductive models



Rapid Serial Presentation of Caltech 101 Images

Graph-Based Visual Pattern Discovery

Team Members

- Neuro-computational models of knowledge representation
- Complementary neuroimaging modalities and techniques for characterizing knowledge representation in the human brain
- Experimental designs and paradigms which easily translate to intelligence community problems/applications

Contact Information

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