1099-68-255   **Michael I. Ham*** (`mikeh@lanl.gov`). *An Exploration of Sampling Methods for Dictionary Learning With a Focus on Object Detection In Imagery.*

Dictionary learning methods have proven extremely robust for algorithms designed to detect objects within imagery and have greatly advanced the state of the art in computer vision. However, human level detection accuracy is still lacking in a broad range of object categories despite the large amount of research, computational power and training sets that have been dedicated to this issue. A potential hypothesis to explain this disparity in accuracy is that modern methods simply do not generate enough unique dictionary elements for classifiers to use when attempting to distinguish and classify objects. To explore this hypothesis, methods for learning a larger number of relevant dictionary elements are presented, and the potential applications of this work are discussed.