

1086-60-1506      **Arjuna Flenner\*** (aflenner@gmail.com), 1900 N. Knox Road, China Lake, CA 93555, and  
**Gary Hewer**, 1900 N. Knox Road, China Lake, CA 93555. *Automatically Structuring  
Unstructured Data: A Probabilistic Approach and Open Questions.*

Data is ubiquitous in the modern world where sensors and storage devices have become cheap. This data, however, arrives mainly unstructured with very little metadata such as GPS coordinates or time stamps added. Furthermore, the amount of data precludes structuring by manual means; therefore, automated techniques to structure the data are essential, where the structured data must be useful for mission objectives. We describe some tools to better structure image data based on probability modeling, non-parametric Bayesian analysis, and probability tail bounds. In particular, we consider the problems of vanishing point detection, image labeling, and content based search. The approach presented demonstrates state of the art results in these problems, but there are open convergence and stability questions that we will discuss. (Received September 22, 2012)