VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Computer Science Seminar Series

National Capital Region

R-Ontology for Image Annotation

Speaker: Prof. Setareh Rafatirad
George Mason University
Friday, November 21, 2014
1:00PM- 2:00PM, NVC 207

Abstract

Technology advances in wireless sensors and cell phone cameras in recent years have led to generating mass volume of self-generated digital media including text, image, video and audio documents. Annotating digital media – specifically images- with tags, not only facilitates the retrieval process but also helps to derive correlations and uncover hidden patterns.

Since photos are the most ubiquitous and prolific form of user generated content, the focus in this work is on personal, geo-tagged photo collections. I will introduce a semi-automated image annotation approach that constructs an event-recognition model dynamically, and uses this model to assign concrete and expressive event/subevent tags to images in photo stream of a generic event type, like travel. The event-recognition model is dynamically constructed from a generic domain-event model, user calendar, and the low-level metadata of images (latitude, longitude, timestamp, and camera parameters) in a photo stream. Event tags are stored as high-level meta-data of images, and can be used in image search and retrieval, or to discover hidden patterns for big-data analytics. Through multiple experiments and by using a baseline approach, I will present the evaluation outcome of the proposed approach.

Biography

Dr. Setareh Rafatirad is an Assistant Professor in Applied Information Technology Department of George Mason University. Before joining George Mason University, she was a researcher in University of California, Irvine, where she received her M.Sc. and PhD in Computer Science (2008 ~ 2012). Her research is mainly focused on construction of flexible ontological event-models for image understanding. Her research interests are multimedia data mining, image search and retrieval, event recognition and classification, data correlation, and methods for ontology engineering. More information about her work can be found at: http://mason.gmu.edu/~srafatir