University of Redlands School of Business Education+

Center for Business GIS and Spatial Analysis

Golden Opportunity: Mining Big Data and Social Media with GIS and Spatial Analytics

Dr. Ming Tsou, Professor, Department of Geography, San Diego State University

Wednesday, September 18, 2013
12 noon – 1:30 pm (A light lunch will be provided)
Hall of Letters Room 100, University of Redlands Main Campus
Register for this event by September 12, 2013 by contacting Vanessa Siliezar at 909-748-8769 or vanessa_siliezar@redlands.edu

ABSTRACT: Social Media is the digital extension of collective human minds and ideas, the future of business marketing channels, and the source of real-time customer feedback. In 2012, over 340 million Tweets were generated each day. Many social media messages have been created by smart phones with built-in GPS coordinates or user-defined geolocation information. This dynamic supply of big data makes it difficult to quickly gain business insight from millions of social media messages without an intelligent analytical framework. To address this challenge, Geographic Information Systems (GIS) and spatial analytics can provide effective **geo-targeting, real-time, and impact analysis** by interpreting the interconnected information components (TIME, PLACE, and MESSAGES). This talk will introduce this analytical framework - Knowledge Discovery in Cyberspace (KDC) - for mining big data and social media.

With powerful GIS tools and spatial analytics, business managers can use big data to identify emerging problems, improve marketing strategies, assess marketing campaign impacts, and monitor online reputations. By developing highly scalable information mining algorithms, sentiment analysis methods, interactive visualization tools, and statistical methods, business analysts and marketers can discover new patterns and new knowledge from a huge number of social media message records and human communication networks (social networks). This talk will summarize research challenges and opportunities for using GIS to visualize and analyze social media and big data. I will also share my experiences in building a start-up company at a university business incubator and the challenges of transferring academic research findings into commercial applications and software products.

Speaker's biography: **Ming-Hsiang (Ming) Tsou** is Professor in the Department of Geography, San Diego State University (SDSU) and the CEO of a start-up company, PathGeo. He received a B.S. from National Taiwan University, an M.A. from the State University of New York at Buffalo, and a Ph.D. (2001) from the University of Colorado at Boulder, all in Geography. His research interests are in Social Media, Big Data, Mapping Cyberspace, Web GIS, mobile GIS, GIS education, and geospatial cyberinfrastructure. He is co-author of ***Internet GIS*** (Wiley, 2003) and served on the editorial boards of ***the Annals of GIS*** (2008-2013), ***Cartography and GIScience*** (2013-) & ***the Professional Geographers*** (2011-). Tsou was the Chair of the Cartographic Specialty Group (2007-2008) and the Chair of Cyberinfrastructure Specialty Group (2012-2013) in the Association of American Geographers (AAG). He has been served on two U.S. National Academy of Science Committees: "Research Priorities for the USGS Center of Excellence for Geospatial Information Science" and "Geotargeted Alerts and Warnings: A Workshop on Current Knowledge and Research Gaps". In 2007, he created and maintained web-based mapping services for San Diego Wildfires. Since 2008, Tsou served as a senior researcher in the **GeoTech Center** for GIS education in community colleges and high schools. Tsou has served as the Principle Investigator (PI) of a $1.3 million NSF-sponsored research project, "**Mapping ideas from Cyberspace to Realspace**". This NSF-CDI project integrates GIS, computational linguistics, web search engines, and social media API to track and analyze public-accessible websites and tweets for visualizing and analyzing information landscapes of ideas in cyberspace.