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Geoinfomatics: from Spatial to Social

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Abstract:

After hundreds years of evolution and development, surveying and mapping or geoinfomatics has entered in to an arena of new, evolutional development. Such profound changes have following characteristics. The platforms based on which data are collected are across all scales, from satellites, airplane,, vehicle, terrestrial and smartphones. The people involved vary from trained, licensed professionals, government agencies, professionals of individual disciplines, to general public and citizens. The other front is the availability of various geospatial data. Internet technology and open science are making more high quality geospatial data available to general public. Finally, the interaction with other disciplines, especially, computer vision and machine learning creates novel approaches for geomatics professionals. All these developments are leading geospatial studies and researches into a much broader scope.

This talk will present my recent work in basic scientific problems in geomatics engineering, despite there are diverse applications and data collection technologies. These fundamental problems are data registration, data integration, information extraction, patterns and trend recognition. To be presented in the talk are results from varying sensors, including space, airborne, ground and the handheld ones. Patterns of human mobility will also be shown based on social media data. Some considerations on future efforts and further developments in geoinfomatics will be presented for discussions as well.

Biography:

Jie Shan is currently a Professor with the Lyles School of Civil Engineering, Purdue University. He received his Ph.D. in photogrammetry and remote sensing from Wuhan University, China. He has been a faculty at universities in China and Sweden, and Research Fellow in Germany. His areas of interests include sensor geometry and positioning, object extraction and reconstruction from images and point clouds, urban remote sensing, automated digital mapping, and pattern recognition of spatial, temporal and semantic data. He has authored/co-authored over 200 scientific publications, and is a recipient of multiple best paper awards, including the Talbert Abrams Grand Award and the Environmental Systems Research Institute Award. He is a Senior Member of IEEE and an elected ASPRS Fellow.