Network Analytics in ORA

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Description: A lecture and hands-on workshop in which attendees learn about Network Analytics and the toolkit *ORA. Foundational concepts and techniques are presented including: assessing meta-network and high dimensional network data, network visualization, and comparing networks. Using *ORA the attendees will learn how to import, export, visualize, and assess data. Attention will be focused on grouping technologies, key entity identification, and large scale networks. Participants will be presented with a thorough demonstration of software features used to create a sample network and analyze it using traditional and advanced techniques. Participants will be provided with a CD for a windows PC with executable of the software (ORA-Lite), a free trial version), sample data, and a user's guide. Basic social network analytics, statistics, analysis and visualization techniques are covered, both in concept and practical operation. Special features for handling node attributes are presented. Key node identification, clustering, social and semantic networks are covered. This workshop will be fast-paced and involves advanced material, however novices to network analysis should be able to follow along, as the material is presented in an affable, but comprehensive manner.

*ORA is a powerful network analysis and visualization tool. *ORA supports the assessment of standard social network data, organizational network data, high-dimensional network data, meta-network data, geo-spatial network data, and dynamic network data. Relatively unique features include trail and network visualization, fuzzy grouping algorithms, multi-mode network assessment, built in network simulators, JSON and CSV importers, specialized twitter analytics, two mode metrics, and powerful visualizer with data entry and mark-up capabilities. The professional version is capable of handling large 10^6 networks, and can run under the PC, Mac or linux operating system.

Who Should Attend? Those who are interested in network analysis, or in assessing social media data, networks derived from texts, groups, organizations or communities using sets of interconnected multi-mode or multi-link networks and/or sets of networks across time and/or space and who want to learn how to use existing software tools and techniques to analyze such meta-network data, should attend this workshop. The material and its delivery is suitable for researchers and practitioners, alike. This is designed to be a non-technical workshop, however, by its very nature, the material will involve some mathematics, although this will be minimized as the delivery is driven towards forming an understanding of the concepts, not mastery of the details.

Topics Include:

- Social Network Analysis & Visualization
- Comparing and contrasting networks
- Multi-mode, multi-link, high dimensional network metrics
- Sentiment networks
- Analyzing Twitter and Email data
- *ORA software

Computer Equipment:

The software presented in this tutorial is Windows operating system based. Participants with windows emulators may want to pre-load and test the *ORA software from the CASOS website – http://www.casos.cs.cmu.edu/projects/ora/. However, this will also be brought to the meeting. Participants should bring their own laptops to workshop. Nevertheless, participants not able to bring a Windows-based laptop computer to the sessions are welcome to participate, and will still fully benefit from the workshop. The software will be screen-projected to the group as a live walk-through

demonstration. Participants will be provided with a data CD containing the complete set of software and will be guided through its installation and subsequent hands-on usage.

Maximum Number of Attendees: Unlimited

Keywords: Dynamic Network Analysis, ORA, Social Networks, Big Data, Network Visualization