

Organization

- Carnegie Mellon University
 - Institute for Software Research / School of Computer Science
 - Department of Electrical and Computer Engineering
- Center – CASOS
 - Center for Computational Analysis of Social and Organizational Systems
 - 30 people – approximately half graduate students and postdocs and half full time research staff
- Professor Kathleen Carley – CASOS Director
 - Sociologist and Computer Scientist
 - Expert in Network Science and Agent Based Modeling
- Professor L. Richard (Rick) Carley
 - Electrical and Computer Engineer
 - Expert in Optimization and Signal Processing



Uniqueness

- Dynamic meta-network analysis tools and metrics
 - ORA – Network assessment tools for geo-temporal network data – clustering, change detection and Fourier analysis for networks, dynamic network metrics
- Tools for automatically extracting content, networks and sentiment from texts
 - AUTOMAP – deep level content and network extraction
 - RNE – Rapid Network extraction from online corpi
- Data
 - Processed dynamic network data from news articles
 - Sudan 2003-2011
 - Arab Spring October 2010 to present



Capabilities Sought

- Data other than news data
 - Sudan 2003-2011
 - Arab Spring October 2010 to Present
- Sensor data analysis
- Statistics based non-linear dynamical analysis
- Interdisciplinary team



Research Strengths

- Assessing dynamic meta-networks
 - Identifying and forecasting change in networks connecting who, what, how, why and where through time
- Geo-enabled network analysis
- Fusing data to create dynamic meta-networks
 - Multi-mode, multi-link, multi-level networks in which the nodes, links, and networks have attributes
 - Multi-source data fusion for instantiating and testing agent-based simulations
- Socio-cultural understanding of texts
 - Network extraction from texts
- Using signal processing techniques to analyze over-time social and communication network data
 - Fusing sensor, communication and social network data

Contact Information

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