ELDER RESEARCH INC.
DATA MINING & PREDICTIVE ANALYTICS

- Elder Research, Inc.

Charlottesville, VA	Washington, DC
Manhasset, NY	Mountain View, CA

- Principal Investigator:
  - John Elder, Ph.D.: Chief Scientist
- Selected ERI Team Members:
  - Dustin Hux: VP, Analytics
  - Stephen Gawtry: Senior Scientist
  - Giovanni Seni, Ph.D.: Senior Scientist
  - Andrew Fast, Ph.D.: Research Scientist

Current Research:

- Text Mining
  - Developing tools for automated detection of events (or documents) of importance on the web or in large databases
    - Performed via various document similarity techniques
    - Automates the construction of a document classification system for data in large databases

- Data Mining:
  - Developing cutting-edge capabilities in ensembling (Seni&Elder: *Ensemble Methods in Data Mining*, 2010)
  - Establishing methods for data mining best practice (Nisbet,Elder&Miner: *Handbook of Statistical Analysis & Data Mining Applications*, 2009)
  - Developing threat, anomaly, and fraud detection tools and methods for a variety of federal government and commercial clients

- Social Network Visualization & Analysis
  - Working on applications of conditional random fields and other graphical modeling techniques within social network analysis

Capabilities:

- Elder Research has 15 years of applying experience in data mining, predictive analytics, and text mining to problems across the governmental, commercial, financial, and academic domains.

- Of particular interest to the FUSE effort, ERI also has the capability to automatically build a document classification structure from the web, or from any text document database, via a "focused crawler" using document similarity techniques. Subsequent to the identification of "seeding" documents, process is largely automated with the ability for analyst feedback to iteratively improve the classification

Goals:

- Elder Research is interested in contributing experience in the application of cutting-edge text mining and data mining skills to a team working on the goals of the FUSE project.

- In particular, ERI has experience applying focused web crawling and web classification automation systems to the solution of real problems, primarily for key clients in the government space, and would like to contribute this to the FUSE team effort.

Contact Information:

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