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A Network Analysis Model for Disambiguation of Names in Lists

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Author Biographies

Bradley A. Malin is a Ph.D. candidate in the School of Computer Science at Carnegie Mellon University. He is an NSF IGERT fellow in the Center for Computational Analysis of Social and Organizational Systems (CASOS) and a researcher at the Laboratory for International Data Privacy. His research is interdisciplinary and combines aspects of bioinformatics, data forensics, data privacy and security, entity resolution, and public policy. He has developed learning algorithms for surveillance in distributed systems and designed formal models for the evaluation and the improvement of privacy enhancing technologies in real world environments, including healthcare and the Internet. His research on privacy in genomic databases has received several awards from the American Medical Informatics Association and has been cited in congressional briefings on health data privacy. He currently serves as managing editor of the Journal of Privacy Technology.

Edoardo M. Airoidi is a Ph.D. student in the School of Computer Science at Carnegie Mellon University. Currently, he is a researcher in the CASOS group and at the Center for Automated Learning and Discovery. His methodology is based on probability theory, approximation theorems, discrete mathematics and their geometries. His research interests include data mining and machine learning techniques for temporal and relational data, data linkage and data privacy, with important applications to dynamic networks, biological sequences and large collections of texts. His research on dynamic network tomography is the state-of-the-art for recovering information about who is communicating to whom in a network, and was awarded honors from the ACM SIG-KDD community. Several companies focusing on information extraction have adopted his methodology for text analysis. He is currently investigating practical and theoretical aspects of hierarchical mixture models for temporal and relational data, and an abstract theory of data linkage.

Kathleen M. Carley is a Professor of Computer Science in ISRI, School of Computer Science at Carnegie Mellon University. She received her Ph.D. from Harvard in Sociology. Her research combines cognitive science, social and dynamic networks, and computer science (particularly artificial intelligence and machine learning techniques) to address complex social and organizational problems. Her specific research areas are computational social and organization science, social adaptation and evolution, social and dynamic network analysis, and computational text analysis. Her models meld multi-agent technology with network dynamics and empirical data. Three of the large-scale tools she and the CASOS group have developed are: BioWar a city, scale model of weaponized biological attacks and response; Construct a models of the co-evolution of social and knowledge networks; and ORA a statistical toolkit for dynamic social Network data.