

JANA DIESNER
Curriculum Vitae

Carnegie Mellon University
School of Computer Science
Institute for Software Research
Center for Computational Analysis of Social and Organizational Systems
5000 Forbes Ave, 1327 Wean Hall, Pittsburgh, PA, 15213, USA
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Citizenship: German, Permanent Resident of the USA (Greencard)

Goal

To obtain a challenging position in academia or industry that allows me to contribute my technical and interdisciplinary skills to develop solutions to problems that impact society, to expand my research on spanning the boundary between computational linguistics and network science to better understand the co-evolution and interplay of the semantics and mechanics of real-world networks, and to engage people in computational thinking.

Education

Carnegie Mellon University, School of Computer Science, Pittsburgh, PA
Ph.D. in Computation, Organizations, Society 2006 - 2010
Topic: Computational integration of real-world networks and semantic analyses
Advisor: Prof. Dr. Kathleen M. Carley
M.S. (Master of Science) in Computation, Organizations, Society 12/2007
Certificate: Expertise in Dynamic and Social Networks 05/2007

Dresden University of Technology, Dresden, Germany
M.A. (Magister Artium) in Communication Science 03/2003
Thesis: Automatic Retrieval of Using Patterns applied to Online News
Advisor: Prof. Dr. Wolfgang Donsbach
Erasmus Exchange student at Universidad de Granada, Spain 08/1999-03/2000

Carnegie Mellon University, Institute for Complex Engineered Systems in 2000-2002
Research Scholar

Employment

Software Developer & Research Associate 06/2003-08/2006
Carnegie Mellon University, School of Computer Science

- Lead developer for software tool (AutoMap) for natural language processing, relational text analysis, and network analysis
- Management: Interview, train, and supervise technical staff

Skills

- Analytical and technical: Formalize fuzzy problems and develop practical computational solutions at the intersection of machine learning, artificial intelligence, natural language processing, and network analysis.
- Teaching and communication: Design, prepare and deliver courses, workshops and software training in my areas of expertise.
- Leadership: Organize outreach to and training for school students to develop and nurture their interest and skills in STEM (Science, Technology, Engineering, Mathematics).

Publications

Refereed Journal Papers

- Diesner, J., & Carley, K. M. (2008). Conditional Random Fields for Entity Extraction and Ontological Text Coding. *Journal of Computational and Mathematical Organization Theory*, 14, 248 - 262.
- Carley, K. M., Diesner, J., Reminga, J., & Tsvetovat, M. (2007). Toward an interoperable dynamic network analysis toolkit. *Decision Support Systems*, 43(4), 1324-1347.
- Diesner, J., Frantz, T. L., & Carley, K. M. (2005). Communication Networks from the Enron Email Corpus "It's Always About the People. Enron is no Different". *Computational and Mathematical Organization Theory*, 11(3), 201-228.

Refereed Conference Papers

- Diesner, J., & Carley, K. M. (2009). He says, she says. Pat says, Tricia says. How much reference resolution matters for entity extraction, relation extraction, and social network analysis. *Proceedings of IEEE Symposium on Computational Intelligence for Security and Defence Applications (CISDA)*, Ottawa, Canada, July 2009.
- Landwehr, P., Diesner, J., & Carley, K.M. (2009). The Words of Warcraft: a relational text analysis of quests in an MMORPG. *Digital Games Research Association (DiGRA) Conference*, London, UK, September 2009.
- Diesner, J., & Carley, K. M. (2009). WYSIWII - What You See Is What It Is: Informed Approximation of Relational Data from Texts. *General Online Research (GOR) Conference*, Vienna, Austria, April 2009.
- Diesner, J., & Carley, K. M. (2007). Conditional Random Fields for Entity Extraction and Ontological Text Coding. *North American Association for Computational Social and Organizational Science (NAACSOS) Conference*, Atlanta, GA, July 2007. Paper won Best Student Paper Award.
- Lecy, J., Diesner, J., & Carley, K. M. (2006). Identification of Knowledge Groups from the Enron Email Corpus. *56th Annual Conference of International Communication Association (ICA)*, Dresden, Germany, June 2006.
- Carley, K. M., Frantz, T., & Diesner, J. (2006). Social and Knowledge Networks from Large Scale Databases. *56th Annual Conference of International Communication Association (ICA)*, Dresden, Germany, June 2006.
- Diesner, J., Kumaraguru, P., & Carley, K. M. (2005). Mental Models of Data Privacy and Security Extracted from Interviews with Indians. *55th Annual Conference of International Communication Association (ICA)*, New York, NY, May 2005.
- Diesner, J., & Carley, K. M. (2005). Exploration of Communication Networks from the Enron Email Corpus. *Proceedings of SIAM International Conference on Data Mining, Workshop on Link Analysis, Counterterrorism and Security*, pg. 3- 14, Newport Beach, CA, April 2005.
- Diesner, J., & Carley, K. M. (2004). Using Network Text Analysis to Detect the Organizational Structure of Covert Networks. *Proceedings of the North American Association for Computational Social and Organizational Science (NAACSOS) Conference*, Pittsburgh, PA, July 2004.
- Carley, K. M., Diesner, J., Reminga, J., & Tsvetovat, M. (2004). An Integrated Approach to the Collection and Analysis of Network Data. *Proceedings of the North American Association for Computational Social and Organizational Science Conference (NAACSOS)*, Pittsburgh, PA, July 2004.
- Lewis, E. T., Diesner, J., & Carley, K. M. (2001). Using Automated Text Analysis to Study Self-Presentation Strategies. *Proceedings of the Computational Analysis of Social and Organizational Systems Conference (CASOS)*, Pittsburgh, PA, July 2001.

Book Chapters

- Diesner, J., & Carley, K. M. (in print). Relation Extraction from Texts (in German, title: Extraktion relationaler Daten aus Texten). In C. Stegbauer & R. Häußling (Eds.), *Handbook Network Research (Handbuch Netzwerkforschung)*. Vs Verlag.

- Diesner, J., & Carley, K.M. (in print). Relational methods in law enforcement (in German, title: Relationale Verfahren in der kriminologischen und kriminalistischen Forschung, Prävention und Ermittlung). In C. Stegbauer & R. Häußling (Eds.), *Handbook Network Research (Handbuch Netzwerkforschung)*. Vs Verlag.
- Weil, S. A., Foster, P., Freeman, J., Carley, K., Diesner, J., et al. (2008). Converging Approaches to Automated Communications-based Assessment of Team Situation Awareness. In M. P. Letsky, N. W. Warner, S. M. Flore & C. A. P. Smith (Eds.), *Macro-cognition in Teams* (pp. 277–304). *Theories and Methodologies*. Aldershot: Ashgate.
- Diesner, J., & Carley, K. M. (2005). Revealing Social Structure from Texts: Meta-Matrix Text Analysis as a novel method for Network Text Analysis. In V. K. Narayanan & D. J. Armstrong (Eds.), *Causal Mapping for Information Systems and Technology Research* (pp. 81-108). Harrisburg, PA: Idea Group Publishing.

Technical Reports

- Diesner, J., & Carley, K. M. (2008). Looking under the hood of stochastic part of speech taggers (Technical Report CMU-ISR-08-131R): Carnegie Mellon University, School of Computer Science, Institute for Software Research.
- Frantz, T. L., Carley, K. M., & Diesner, J. (2005). An Automated Methodology for Conducting a Social Network Study of a University Faculty (Technical Report CMU-ISRI-05-106): Carnegie Mellon University, School of Computer Science, Institute for Software Research International.
- Tsvetovat, M., Diesner, J., & Carley, K. M. (2004). NetIntel: A Database for Manipulation of Rich Social Network Data (Technical Report CMU-ISRI-04-135): Carnegie Mellon University, School of Computer Science, Institute for Software Research International.
- Diesner, J., & Carley, K. M. (2004). AutoMap1.2 - Extract, analyze, represent, and compare mental models from texts (Technical Report CMU-ISRI-04-100): Carnegie Mellon University, School of Computer Science, Institute for Software Research International.

Selected non-Refereed Papers and Presentations

- Diesner, J. (chair), Gadeib, A., Lüttschwager, F., Sassinot-Uny, L. (2009). Data Collection online: Can do, must (not) do, Should do. General Online Research (GOR) Conference, Vienna, Austria, April 09.
- Diesner, J. (2008). Computer Science in Numbers: Diversity and Employment. Carnegie Mellon University, Pittsburgh, PA.
- Carley, K.M., Diesner, J., McCulloh, I., Frantz, Martin, M. & Kunkel, F. (2008). Technologies for Distilling and Investigating Relational Data from Unstructured Text Data. Poster at Advanced Decision Architectures Consortium meeting of the U. S. Army Research Laboratory. Boulder, CO, February 2008.
- Diesner, J., Carley, K. M., & Katzmaier, H. (2008). He Says, She Says - Identity and Polarization in Communication Networks of an Organization in Crisis. XXVIII Sunbelt Social Network Conference, St. Pete, FL, January 2008.
- McConville, E., Diesner, J., & Carley, K. M. (2008). Software demonstration of AutoMap. Poster at XXVIII Sunbelt Social Network Conference, St. Pete, FL, January 2008.
- Diesner, J., Carley, K. M., & Katzmaier, H. (2007). The morphology of a breakdown. How the semantics and mechanics of communication networks from an organization in crisis relate. XXVII Sunbelt Social Network Conference, Corfu, Greece, May 2007.
- Weil, S. A., Carley, K. M., Diesner, J., Freeman, J., & Cooke, N. J. (2006). Measuring Situational Awareness Through Analysis of Communications: A Preliminary Exercise. Paper presented at the Command and Control Research and Technology Symposium San Diego, CA, June 2006.
- Diesner, J., Pfeffer, J., & Katzmaier, H. (2006). Evaluating Scientific Classification Systems by Bottom-Up Clustering of Abstracts Using Semantic Network Analysis. XXVI Sunbelt Social Network Conference,

Jana Diesner

Vancouver, BC, Canada, April 2006.

Carley, K. M., Frantz, T., Diesner, J., & Davis, G. (2005). Groups: Surface And Deep Structure. XXV Sunbelt Social Network Conference, Redondo Beach, CA, February 2005.

Lewis, E. T., Carley, K. M., & Diesner, J. (2003). Concept Networks In Organizational Language: Consensus or Creativity? XXIII Sunbelt Social Network Conference, Cancun, Mexico, February 2003.

Lewis, E. T., Diesner, J., & Carley, K. M. (2002). Using Network Analysis to Extract and Analyze Self-Presentation Strategies in Texts. XXII Sunbelt Social Network Conference, New Orleans, LA, February 02.

Invited talks

- NATO School, Oberammergau, Germany: Natural Language Processing and Network Analysis for Mapping and Understanding Covert Networks (October 15, 2009)
- vm-people GmbH, Berlin, Germany: Transforming linear data into relational data (August 15, 2008)
- Deutsche Welle, Berlin, Germany: Mapping Politics: From Words to Knowledge, with P. Ueschner (August 01, 2008)
- Chemnitz Art Museum, Chemnitz, Germany: Finding Relations, with C. Stützer (July 24, 2008)
- Complexity Workshop, Mittweida Univ. of Applied Sciences, Germany: System Dynamics: Approach to Computational Modeling and Simulation (March 13, 2008)
- Complexity Workshop, Univ. of Applied Sciences, Mittweida, Germany: Data Collection online: Feasible does not have to mean legal (January 03, 2008)
- Age of Simulation Conference, Linz, Austria: Communication Networks from the Enron Email Corpus (January 12, 2006)
- FAS.research, Inc. Vienna, Austria: Computer-supported Network Text Analysis (May 19, 2005)
- Washington Institute for Near East Policy, Washington, D.C.: Extraction of the Social Structure of Covert Networks from Texts (January 28, 2005)

Teaching Experience

Course instructor:

Developed syllabi and overall course structure, administered grades

- Summer course: Extraction of Relational Data from Texts and Computational Thinking. Mittweida University of Applied Sciences, Germany (three-week course in 2008)
- Summer course: Extraction of Relational Data from Texts and Applications with Multi-Level Data. Mittweida University of Applied Sciences, Germany (three-week course in 2007)

Instructor for workshops and tutorials:

Tutorials on Computational Linguistics, Dynamic Network Analysis, and Computational Thinking.

Designed syllabi, prepared teaching material, gave lecture, and hands-on training for/ at:

- Department of National Defence, Centre for Security Science, Ottawa, Canada (July 07, 2009)
- International Center for the Study of Terrorism, Penn State University (July 15, 2009)
- General Online Research (GOR) Conference, University of Vienna, Austria (April 06, 2009)
- XXIX International Sunbelt Social Network Conference, San Diego, CA (March 10/11, 2009)
- General Online Research (GOR) Conference, University Hamburg, Germany (March 10, 2008)
- World Congress on Social Simulation, George Mason University, Fairfax, VA (July 15, 2008)
- North American Assoc. for Computational Social and Organizational Science (NAACSOS) Conference, Emory University, Atlanta, GA (July 07, 2007)
- Graduate School of Public and International Affairs, University of Pittsburgh (October 21, 2005)
- Max Planck Institute for the Study of Societies, Cologne, Germany (May 18, 2005), with Dr. L. Krempel
- Network Text Analysis sessions (one day) at Annual CASOS Summer Institute, Carnegie Mellon University, Pittsburgh, PA (2004 – 2009)

Guest Lecture:

- at 60-719 (ETB Studio): Information Visualization, taught by Ben Fry and Golan Levin. Carnegie Mellon University, Pittsburgh, PA (April 10, 2007)

Student Advising

2007/ 2008: Co-advised master thesis for Patric Ueschner, M.A. in Information & Communication Science. Mittweida University of Applied Sciences, Mittweida, Germany

Awards and Honors

- DAAD (German Academic Exchange Service): Grant for attending European Career Fair, Boston, MA, January 2009
- IBM: Scholarship for Grace Hopper conference, Boulder, CO, October 2008
- Best Student Paper Award: 2007 North American Association for Computational Social and Organizational Science (NAACSOS) Conference, Atlanta, GA (Paper: Conditional Random Fields ...)
- SIAM (Society for Industrial and Applied Mathematics): Grant for attending 2005 SIAM International Conference on Data Mining, Newport Beach, CA
- Student fellowship, Socrates-Erasmus Exchange Program, University of Granada, Spain (1999/2000)

Leadership, Service, Membership

Leadership and Service

- Organize, lead and participate in activities aimed towards encouraging school students, especially women, to pursue careers in science and computing:
 - Technical training sessions for and outreach to K12 students
 - Mentor in the CyberMentor Germany program (2009 to present)
 - Lead Computer Science track for 2008 High School day at CMU with over 100 girls attending, manage same event in 2009
- Regional Ambassador USA for Dresden University of Technology, Germany (2008 – present)

Program Committee member

- General Online Research (GOR) 2009 conference

Reviewer

- Journals: ACM Transactions on Information Systems, Social Networks, Journal of Artificial Societies and Social Simulation (JASSS), Journal of Computational and Mathematical Organization Theory (CMOT)
- Conferences: IEEE Social Computing, Americas Conference on Information Systems (AMICS)

Membership

- ACM - Association for Computing Machinery 2004 - present
- SIAM - Society for Industrial and Applied Mathematics 2008 - present
- IEEE - Institute of Electrical and Electronics Engineers 2009 - present
- NAACSOS – North American Assoc. for Computational Social and Org. Science 2004 - present
- INSNA – International Network for Social Network Analysis 2002 - present
- GI – Gesellschaft fuer Informatik (German Association for Computer Science) 2009 - present
- GAIN- German Academic Network 2006 - present

Languages

English – excellent, German – native, Spanish – medium proficiency, Latin

References upon request
