

# CURRICULUM vitae

## Jure LESKOVEC

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- Positions held*
- ◇ **Stanford University**, Stanford , CA.  
Assistant Professor.  
Department of Computer Science.  
September 2009.
  - ◇ **Cornell University**, Ithaca, NY.  
Postdoctoral researcher.  
Department of Computer Science.  
September 2008 – July 2009.

- Education*
- ◇ **Carnegie Mellon University**, Pittsburgh, PA.  
Ph.D. in Computational and Statistical Learning,  
Machine Learning Department, School of Computer Science.  
September 2008.
  - ◇ **University of Ljubljana**, Slovenia.  
Diploma [B.Sc.] in Computer Science (Summa Cum Laude), May 2004.

*Research interests* Mining and modeling of large real-world social and information networks, their evolution, and diffusion of information and influence through them.

- Selected honors and awards*
- ◇ **Alfred P. Sloan Fellowship, 2012.**
  - ◇ **Microsoft Research Faculty Fellowship, 2011.**
  - ◇ **IEEE Intelligent Systems magazine “AI’s 10 to Watch”, 2011.**
  - ◇ **Best student paper award**, International Conference on Web Search and Data Mining, WSDM 2011.
  - ◇ **Best application paper award**, International Conference on Data Mining, ICDM 2010.
  - ◇ **Best research paper runner-up award**, International Conference on Knowledge Discovery and Data Mining, KDD 2010.
  - ◇ **IBM Faculty award, 2009.**
  - ◇ **ACM SIGKDD Dissertation Award 2009.**
  - ◇ **Best Research Paper Award** at ASCE Journal of Water Resources Planning and Management Engineering, 2009.
  - ◇ **Best student paper award**, International Conference on Knowledge Discovery and Data Mining, KDD 2007.
  - ◇ **Best solution of Battle of the Water Sensor Networks (BWSN)** competition on sensor placement in water distribution networks, 2007.
  - ◇ **Microsoft Graduate Research Fellowship, 2006 - 2008.**

- ◇ **Best research paper award**, International Conference on Knowledge Discovery and Data Mining, KDD 2005.
- ◇ **Winner of the KDD Cup 2003** on estimating the download rate of scientific articles on Arxiv. KDD Cup is a data mining competition held in conjunction with the Annual ACM SIGKDD Conference.
- ◇ Govorec, a Slovenia text to speech system, I built was awarded by Government of the Republic of Slovenia as best innovation for disabled of the year 2001.
- ◇ 2nd prize at 11th European Union Contest for Young Scientists, 1999, for a real-time stereoscopic image recognition system.

## Publications

### ◇ Journals

- Dan J. Wang, Xiaolin Shi, Daniel A. McFarland, Jure Leskovec. Measurement error in network data: a re-classification. *Social Networks*, 2012 (to appear).
- Myunghwan Kim, Jure Leskovec. Multiplicative attribute graph model of real-world networks. *Internet Mathematics*, 2012 (to appear).
- Manuel Gomez-Rodriguez, Jure Leskovec, Andreas Krause. Inferring networks of diffusion and influence. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 5(4):1–27, 2012.
- U. Kang, Charalampos E. Tsourakakis, Ana Paula Appel, Christos Faloutsos, Jure Leskovec. HADI: Mining radii of large graphs. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 2011.
- Jure Leskovec, Deepayan Chakrabarti, Jon M. Kleinberg, Christos Faloutsos and Zoubin Ghahramani. Kronecker graphs: an approach to modeling networks. *Journal of Machine Learning Research*, 2010.
- Jure Leskovec, Kevin Lang, Anirban Dasgupta and Michael Mahoney. Statistical properties of community structure in large social and information networks. *Internet Mathematics*, 6(1):29–123, 2009.
- Andreas Krause, Jure Leskovec, Carlos Guestrin, Jeanne VanBriesen and Christos Faloutsos. Efficient Sensor Placement Optimization for Securing Large Water Distribution Networks. *Journal of Water Resources Planning and Management (JWRPM)*, 2008.
- ◇ **Best research paper.**
- Jure Leskovec, Jon M. Kleinberg and Christos Faloutsos. Graph evolution: Densification and shrinking diameters. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 1(1):2, 2007.
- Jure Leskovec, Lada A. Adamic and Bernardo A. Huberman. The dynamics of viral marketing. *ACM Transactions on the Web (TWEB)*, 1(1):2, 2007.
- Deepayan Chakrabarti, Yang Wang, Chenxi Wang, Jure Leskovec, Christos Faloutsos. Epidemic thresholds in real networks. *ACM Transactions on Information and System Security (TISSEC)*, 10(4):1–26, 2008.
- Janez Brank, Jure Leskovec. The download estimation task on KDD cup 2003. *SIGKDD Explorations*, 5(2):160-162, 2003.

### ◇ Conferences

- Robert West, Jure Leskovec. Human wayfinding in information networks. *WWW '12: ACM WWW International conference on World Wide Web*, 2012.

- Sanjay Kairam, Dan Wang, Jure Leskovec. The life and death of online groups: predicting group growth and longevity. *WSDM '12: ACM International Conference on Web Search and Data Mining*, 2012.
- Ashton Anderson, Daniel Huttenlocher, Jon Kleinberg, Jure Leskovec. Effects of user similarity in social media. *WSDM '12: ACM International Conference on Web Search and Data Mining*, 2012.
- Sanjay Kairam, Dan Wang, Jure Leskovec. The life and death of online groups: predicting group growth and longevity. *WSDM '12: ACM International Conference on Web Search and Data Mining*, 2012.
- Eldar Sadikov, Montse Medina, Jure Leskovec, Hector Garcia-Molina. Correcting for missing data in information cascades. *WSDM '11: ACM International Conference on Web Search and Data Mining*, 2011.

**Best student paper award.**

- Myunghwan Kim, Jure Leskovec. Modeling social networks with node attributes using the multiplicative attribute graph model. *UAI '11: Conference on Uncertainty in Artificial Intelligence*, 2011.
- Eunjoon Cho, Seth A. Myers, Jure Leskovec. Friendship and mobility: user movement in location-based social networks. *KDD '11: ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2011.
- Mahalia Miller, Conal Sathi, Daniel Wiesenhal, Jure Leskovec, Christopher Potts. Sentiment flow through hyperlink networks. *ICWSM '11: AAAI International Conference on Weblogs and Social Media*, 2011.
- Stephen Guo, Mengqiu Wang, Jure Leskovec. The role of social networks in online shopping: information passing, price of trust, and consumer choice. *EC '11: ACM Conference on Electronic Commerce*, 2011.
- Simla Ceyhan, Xiaolin Shi, Jure Leskovec. Dynamics of bidding in a P2P lending service: effects of herding and predicting loan success. *WWW '11: ACM WWW International conference on World Wide Web*, 2011.
- Myunghwan Kim, Jure Leskovec. The network completion problem: inferring missing nodes and edges in networks. *SDM '11: SIAM International Conference on Data Mining*, 2011.
- Lars Backstrom, Jure Leskovec. Supervised random walks: Predicting and recommending links in social networks. *WSDM '11: ACM International Conference on Web Search and Data Mining*, 2011.
- Jaewon Yang, Jure Leskovec. Patterns of temporal variation in online media. *WSDM '11: ACM International Conference on Web Search and Data Mining*, 2011.
- Jaewon Yang, Jure Leskovec. Modeling information diffusion in implicit networks. *ICDM '10: IEEE International Conference on Data Mining*, 2010.

**Best application paper award.**

- Manuel Gomez-Rodriguez, Jure Leskovec, Andreas Krause. Inferring networks of diffusion and influence. *KDD '10: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2010.

**Best research paper runner-up.**

- Seth Myers, Jure Leskovec. On the convexity of latent social network inference. *NIPS '10: Neural Information Processing Systems*, 2010.
- Jure Leskovec, Daniel P. Huttenlocher, Jon M. Kleinberg. Signed networks in social media. *CHI '10: Conference on Human Factors in Computing Systems*, 2010.

- Jure Leskovec, Kevin J. Lang, Michael W. Mahoney. Empirical comparison of algorithms for network community detection. *WWW '10: International conference on World Wide Web*, 2010.
  - Jure Leskovec, Daniel P. Huttenlocher, Jon M. Kleinberg. Predicting positive and negative links in online social networks. *WWW '10: International conference on World Wide Web*, 2010.
  - Jure Leskovec, Daniel P. Huttenlocher, Jon M. Kleinberg. Governance in social media: a case study of the wikipedia promotion process. *ICWSM '10: AAAI Conference on Weblogs and Social Media*, 2010.
  - Xiaolin Shi, Jure Leskovec, Daniel A. McFarland. Citing for high impact. In *JCDL '10: Joint International Conference on Digital Libraries*, 2010.
  - U. Kang, Charalampos E. Tsourakakis, Ana Paula Appel, Christos Faloutsos, Jure Leskovec. Radius plots for mining tera-byte scale graphs: algorithms, patterns, and observations. *SDM '10: SIAM Conference on Data Mining*, 2010.
  - Jure Leskovec, Lars Backstrom, Jon Kleinberg. Meme-tracking and the dynamics of the news cycle. *KDD '09: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2009.
  - Michaela Goetz, Jure Leskovec, Mary Mcglohon and Christos Faloutsos. Modeling blog dynamics. *ICWSM '09: AAAI Conference on Weblogs and Social Media*, 2009.
  - Ana Paula Appel, Deepayan Chakrabarti, Christos Faloutsos, Ravi Kumar, Jure Leskovec, Andrew Tomkins. ShatterPlots: Fast tools for mining large graphs. *SDM '09: SIAM Conference on Data Mining*, 2009.
  - Jure Leskovec, Lars Backstrom, Ravi Kumar and Andrew Tomkins. Microscopic Evolution of Social Networks. *KDD '08: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2008.
  - Mukund Seshadri, Sridhar Machiraju, Ashwin Sridharan, Jean Bolot, Christos Faloutsos and Jure Leskovec. Mobile Call Graphs: Beyond Power-Law and Lognormal Distributions. *KDD '08: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2008.
  - Jure Leskovec, Kevin Lang, Anirban Dasgupta and Michael Mahoney. Statistical Properties of Community Structure in Large Social and Information Networks. *WWW '08: International conference on World Wide Web*, 2008.
  - Jure Leskovec and Eric Horvitz. Planetary-Scale Views on a Large Instant-Messaging Network. *WWW '08: International conference on World Wide Web*, 2008.
  - Jure Ferlez, Christos Faloutsos, Jure Leskovec, Dunja Mladenic and Marko Grobelnik. Monitoring Network Evolution using MDL. *ICDE '08: IEEE International Conference on Data Engineering*, 2008.
  - Jure Leskovec andreas Krause, Carlos Guestrin, Christos Faloutsos, Jeanne VanBriesen and Natalie Glance. Cost-effective outbreak detection in networks. *KDD '07: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2007.
- Best student paper.**
- Jure Leskovec and Christos Faloutsos. Scalable modeling of real graphs using Kronecker multiplication. *ICML '07: International Conference on Machine Learning*, 2007.
  - Jure Leskovec, Eric Horvitz and Susan Dumais. Web projections: Learning from contextual subgraphs of the web. *WWW '07: International conference on World Wide Web*, 2007.

- Jure Leskovec, Mary McGlohon, Christos Faloutsos, Natalie Glance and Matthew Hurst. Cascading behavior in large blog graphs. *SDM '07: SIAM Conference on Data Mining*, 2007.
- Deepayan Chakrabarti, Jure Leskovec, Christos Faloutsos, Samuel Madden, Carlos Guestrin and Michalis Faloutsos. Information survival threshold in sensor and P2P networks. *INFOCOM '07: IEEE Conference on Computer Communications*, 2007.
- Mary McGlohon, Jure Leskovec, Christos Faloutsos, Natalie Glance and Matthew Hurst. Finding patterns in blog shapes and blog evolution. *ICWSM '07: International Conference on Weblogs and Social Media*, 2007.
- Jure Leskovec, Lada A. Adamic and Bernardo A. Huberman. The dynamics of viral marketing. *EC '06: ACM conference on Electronic Commerce*, 2006.

**Best paper nomination.**

- Jure Leskovec and Christos Faloutsos. Sampling from large graphs. *KDD '06: ACM SIGKDD international conference on Knowledge discovery and data mining*, 2006.
- Jure Leskovec, Ajit Singh and Jon M. Kleinberg. Patterns of influence in a recommendation network. *PAKDD '06: Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 2006.
- Andreas Krause, Jure Leskovec and Carlos Guestrin. Data association for topic intensity tracking. *ICML '06: International Conference on Machine Learning*, 2006.
- Jure Leskovec, Jon M. Kleinberg and Christos Faloutsos. Graphs over time: densification laws, shrinking diameters and possible explanations. *KDD '05: ACM SIGKDD international conference on Knowledge discovery in data mining*, 2005.

**Best research paper.**

- Jure Leskovec, Deepayan Chakrabarti, Jon M. Kleinberg and Christos Faloutsos. Realistic, mathematically tractable graph generation and evolution, using Kronecker multiplication. *PKDD '05: European Conference on Principles and Practice of Knowledge Discovery in Databases*, 2005.
- Jure Leskovec, Natasa Milic-Frayling and Marko Grobelnik. Impact of linguistic analysis on the semantic graph coverage and learning of document extracts. *AAAI '05: National Conference on Artificial Intelligence*, 2005.
- Jure Leskovec and John Shawe-Taylor. Linear programming boosting for uneven datasets. *ICML '03: International Conference on Machine Learning*, 2003.

*Patents*

- ◇ **Learning and reasoning from web projections** with Eric Horvitz and Susan Dumais. Filed June 2007.
- ◇ **Resource browser sessions search** with Ralph Sommerer, Robert Tucker and Natasa Milic-Frayling. No. 7225407, granted May 2007.
- ◇ **Navigating a resource browser session Patents** with Ralph Sommerer, Robert Tucker and Natasa Milic-Frayling. Filed June 2002.

*Teaching*

- ◇ Stanford CS224W: Social and Information Network Analysis (<http://cs224w.stanford.edu>). PhD level course on analysis of large networks and social media.
- ◇ Stanford CS246: Mining Massive Datasets (<http://cs246.stanford.edu>). PhD level course on data mining and machine learning for massive datasets.
- ◇ Stanford CS341: Project in Mining Massive Datasets (<http://cs341.stanford.edu>). Project based course where students get access to a large computer cluster and perform a project on large scale data mining.

◇ **Software and tools**

- Stanford Network Analysis Platform (SNAP): a network analysis and graph mining library that scales to graphs with hundreds of millions of nodes and edges. <http://snap.stanford.edu>
- Stanford Large Network Dataset Collection: more than 60 publicly available network datasets. Accessed 40,000 times in January 2012. <http://snap.stanford.edu>
- NodeXL: a graphical front-end that integrates network analysis and SNAP into Microsoft Office and Excel. <http://nodexl.codeplex.com>

◇ **Tutorials and summer schools**

- Tutorial on Social Media Analytics at ACM SIGKDD 2011
- Tutorial on Analytics and Predictive Models for Social Media at ACM WWW 2011
- Santa Fe Institute Complex Systems Summer School, Santa Fe, 2010
- Summer school on Networks and Network Analysis for Humanities, NEH Institute, IPAM, UCLA, 2010
- Tutorial on modeling networks at ICML, 2009
- Panelist at ACM SIGKDD conference on Social networks: looking ahead, 2008
- Full day tutorial to WWW (International conference on World Wide Web), 2008
- Tutorial on Mining and Modeling Large Networks at ECML/PKDD, 2007
- Tutorial on Diffusion and Cascading Behavior in Social Networks, NATO Advanced Study Institute on Mining Massive Data Sets for Security, 2007
- Tutorial on Structure of Large Networks at NESCAI, 2007

◇ **Workshops**

- Co-organized workshop on Networks Across Disciplines in Theory and Applications held in conjunction with NIPS 2010.
- Co-organized workshop on Social Media Analytics (SOMA) held in conjunction with KDD 2010.
- Co-organized workshop on Analyzing Networks and Learning with Graphs held in conjunction with NIPS 2009.

◇ Editorial board ACM Transactions on the Web (TWEB).

◇ Data Mining and Knowledge Discovery (DMKD).

◇ Chair of Social Systems and Graph Analysis track at WWW 2011.

◇ Tutorial chair at IEEE International Conference on Data Mining (ICDM) 2011.

◇ Track chair for Machine learning and data mining at WWW 2010.

◇ Student travel awards chair at KDD 2009.

◇ Member of RAIN (Research on Algorithms for the Internet) group at Stanford.

◇ Organizing CMU Machine Learning Lunch Seminar (2006-07, 2007-08)

◇ Organized CMU Database Seminar (2006-07).

◇ **Program committee member:** KDD 2011, WSDM 2011, CHI 2011, ICDE 2011, SDM 2011, ICML 2011, AAAI 2011, ICWSM 2011, SDM 2010, AISTATS 2010, ICML 2010, WSDM 2010, UAI 2010, ECML/PKDD 2010, ICML 2009, KDD 2009, WWW 2009, WSDM 2009, ICWSM 2009, PKDD/ECML 2009, ICML 2008, KDD 2008, WWW 2008, WSDM 2008, ICWSM 2008, PKDD/ECML 2007, ICML 2007, NESCAI 2007, PKDD/ECML 2006, ICML 2006, PKDD/ECML 2005.

- ◇ **Reviewer for:** Science, Journal of ACM (JACM), ACM Journal of Experimental Algorithmics (JEA), ACM Transactions on Knowledge Discovery from Data (ACM TKDD), Machine Learning Journal (MLJ), Transactions on Knowledge and Data Engineering (IEEE TKDE), Data Mining and Knowledge Discovery.

*Popular press* ◇ **Press coverage:**

- Wall Street Journal on *Decoding Our Chatter*, Sept 2011.
- Spark, Canadian Broadcasting Corporation, on *Predictive social network analysis*, Sept 2011.
- New York Times on *Why Some Twitter Posts Catch On, and Some Don't*, Feb 2011.
- MIT Technology Review on *Patterns of Temporal Variation in Online Media*, Jan 2011.
- New York Times on the *MemeTracker* project that builds maps of what the Web is talking about, Jul 2009.
- The Pew Foundation used the MemeTracker methodology in their analysis of the press coverage of the *Great Depression*, Oct 2009.
- Washington Post (front page.) on our study of the small world phenomenon and the six degrees of separation using Microsoft Instant Messenger, Aug 2008.
- MSNBC, Guardian, BBC, Nature News, The Wall Street Journal on *Six degrees of messaging*, summer 2008.
- MIT Technology Review on the *Dynamics of viral marketing*, Mar 2008.
- MSNBC on *ranking blogs and detecting outbreaks in networks*, Jan 2008.

*Industrial collaboration* ◇ **Industrial collaborators:**

- Facebook
- LinkedIn
- Ning
- Twitter
- Amazon
- Samsung
- Stack Overflow
- Orange
- Microsoft Research, Yahoo Research, HP Labs