OMB No. 0925-0001/0002 (Rev. 08/12 Approved Through 8/31/2015)

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| BIOGRAPHICAL SKETCHProvide the following information for the Senior/key personnel and other significant contributors.Follow this format for each person.  **DO NOT EXCEED FOUR PAGES.** |
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| NAMEChristos Faloutsos | POSITION TITLEProfessor of Computer Science |
| eRA COMMONS USER NAME (credential, e.g., agency login)CHRISTOS |
| EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)* |
| INSTITUTION AND LOCATION | DEGREE*(if applicable)* | MM/YY | FIELD OF STUDY |
| University of Toronto | Ph.D. | 1987 | Computer Science |
| University of Toronto | M.Sc. | 1982 | Computer Science |
| National Technical University of Athens | B.Sc. | 1981 | Electrical Engineering |
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**NOTE: The Biographical Sketch may not exceed four pages. Follow the formats and instructions below.**

A. Personal Statement

Professor Faloutsos has been working on data analytics and specifically on graph mining. He has developed the 'Pegasus' system that runs on top of the 'hadoop' system, and can handle graphs with billions of nodes. Using 'Pegasus', he has discovered patterns and anomalies in real graphs, like adult advertisers in twitter data (who-follows-whom), suspicious web sites in the 'Yahoo web graph', and more. In the past few years he has turned his attention to applications of large-scale matrix and tensor factorization methods in neuroimaging.

B. Positions and Honors

**Positions and Employment**

1981-1985 Tutor and instructor in several introductory and data base courses at Univ. of Toronto.

1985-1991 Assistant Professor, Department of Computer Science, University of Maryland at College

Park. Date of initial appointment: 8/16/1985.

1991-1998 Associate Professor, Department of Computer Science, University of Maryland at College

Park. Date of appointment: August 1991.

1997-1998 Visiting Associate Professor, Department of Computer Science, Carnegie Mellon University.

1998-2000 Associate Professor, Department of Computer Science, Carnegie Mellon University.

2000- Full Professor, Department of Computer Science, Carnegie Mellon University.

**Other Experience and Professional Memberships:**

1. Member of the Editorial Board of IEEE Multimedia, Nov. 1995 - Dec. 1998.

2. Member of the Advisory Board of GeoInformatica (by Kluwer Academic Publishers), Jan. 1996 -

Oct. 2010.

3. Member of the Advisory Board of Information Systems (by Elsevier Science), May 1996.

4. Member of the Editorial Board of Information Retrieval Journal (Kluwer), February 1998-Dec.

2005.

5. Member of the Executive Committee of ACM SIG-KDD, 1999-2005.

6. Member of the Editorial Board of the book series on Data Centric Systems and Applications

(DCSA), Springer-Verlag, since March 2002.

7. Member of the Scientiﬁc Advisory Board of the Helsinki Institute for Information Technology

(HIIT)

8. Associate Editor-in-Chief, IEEE TKDE, 2005 - 2007.

9. Member of the Editorial Board of ACM Trans. on Knowledge Discovery from Data, 2005 - 2007.

10. Member of the Advisory Board, Lehigh University, CS Department, 2006-2009.

11. Member of the Advisory Board, Kyungwon University, S. Korea, 2011.

12. SDM Steering Committee member, 2013.

**Honors**

1. 1989 Presidential Young Investigator Award (PYI) - NSF IRI-8958546. Title: Access methods for

large multimedia databases $125,000 for 5 years; up to $500,00 with matching funds.

2. 1998-2001: Litton Fellow, Computer Science Department, Carnegie Mellon University. Amount:

 $10,000 per year.

3. 2006: Research Contribution Award, in the Int. Conference on Data Mining (ICDM), Hong Kong,

China, December 2006.

4. 2010: Innovations Award, in ACM SIGKDD, Washington DC, USA, Aug. 2010.

5. 2010: ACM Fellow

6. 2012: Honorary PhD from Aristotle University of Thessaloniki, Greece

C. Selected Peer-reviewed Publications

1. Jimeng Sun, Yinglian Xie, Hui Zhang and Christos Faloutsos *Less is More: Compact Matrix Decomposition for Large Sparse Graphs* SDM’07, Minneapolis, MN, USA, April 26-28, 2007. *Best Research Paper A*ward.

2. Jure Leskovec, Andreas Krause, Carlos Guestrin, Christos Faloutsos, Jeanne VanBriesen and Natalie Glance, *Cost-effective Outbreak Detection in Networks.* ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (ACM KDD), San Jose, CA, USA, August 2007. *Best Student Paper Award.*

3. Krause, A., Leskovec, J., Guestrin, C., VanBriesen, J., Faloutsos, C. (2008) *Efficient Sensor Placement Optimization for Securing Large Water Distribution Networks* ASCE Journal of Water Resources Planning and Management, 134(6): 516-526. *Best Research Paper Award.*

4. U Kang, Charalampos Tsourakakis, and Christos Faloutsos, *PEGASUS: A Peta-Scale Graph Mining System - Implementation and Observations* ICDM, Miami Florida, Dec. 2009. *Best Applications Paper* (runner up).

5. Leman Akoglu, Mary McGlohon and Christos Faloutsos *Oddball: Spotting Anomalies in Weighted Graphs* PAKDD 2010, Hyderabad, India, 21-24 June 2010. *Best Paper A*ward.

6. U Kang, Brendan Meeder and Christos Faloutsos *Spectral Analysis for Billion-Scale Graphs: Discoveries and Implementation* PAKDD, Shenzhen China, May 24-27, 2011. *Best Application Paper Award.*

7. Hanghang Tong, B. Aditya Prakash, Tina Eliassi-Rad, Michalis Faloutsos and Christos Faloutsos *Gelling, and Melting, Large Graphs by Edge Manipulation,* CIKM’12, Maui, Hawaii, USA, Oct. 2012 *Best Paper Award.*

D. Research Support

1. NSF IIS-1247489 and NIH 1R01GM108339-1 Faloutsos (PI) 12/01/12 – 11/30/2016

*BIGDATA: Mid-Scale: DA: Collaborative Research: Big Tensor Mining: Theory, Scalable Algorithms and Applications*

1. DARPA W911NF-09-2-0053 Faloutsos (co-PI) 09/2009 – 12/31/2013

*ARL: CTA-INARC Information Network Academic Research Center*

1. NSF Award no. IIS-1017415 Faloutsos (PI) 09/2010 – 08/2012

*III: Small: Influence and Virus Propagation in Large Graphs – Theory and Algorithms*

1. DARPA HDTRA1-10-1-0120 Faloutsos (co-PI) 10/2010 – 10/2013

*Robustness Analysis and Anomaly Detection of Interdependent Physical and Social Networks.* Defense Threat Reduction Agency (DTRA)

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1. DARPA W911NF-11-C-0088 Faloutsos (co-PI) 08/22/2011 – 05/30/2013

*Anomaly Detection at Multiple Scales (ADAMS)*

1. NSF Award No. IIS-1217559 Faloutsos (PI) 09/15/2012 – 08/31/2015

*CGV: Small: Making Sense out of Large Graphs - Bridging HCI with Data Mining*

1. NSF Award No. CNS-1314632 Faloutsos (PI) 09/01/2013 08/31/2017

*TWC: Medium: Collaborative: Know Thy Enemy: Data Mining Meets Networks for Understanding Web-Based Malware Dissemination*

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