Knarig Arabshian

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Research Interests

Computer networks, Semantic Web, Service Discovery, Ubiquitous and Pervasive computing, Service-Oriented Computing.

Education

Columbia University
Ph.D., Computer Science - Defended May 2008
Advisor: Henning G. Schulzrinne
Thesis: Ontology-based Context-aware Service Discovery in a Globally Distributed Network

Columbia University
M.Phil. Computer Science - October 2004

Columbia University
M.S. Computer Science - October 2001

Queens College of the City University of New York
B.S. Major: Computer Science, Minor: Mathematics - June 1998

Research and Work Experience

Alcatel-Lucent Bell Labs — Antwerp, Belgium and Murray Hill, NJ
Member of Technical Staff — January 2009 to Present
The goal of my research is to find different ways to create and use semantic web technologies towards establishing a personalized network of services. Ontologies are used to describe, discover, compose and distribute services in a global network. They are also used to describe a user.s context, profile and preferences. I am currently working on two projects: 1) Creating a Mashup of Services in an Ontology-based Global Service Discovery System 2) Designing A Framework for Personalized Context-aware Search of Ontology-based Tagged Data

Columbia University — New York, NY
Adjunct Professor — January 2011 - May 2011
Designed and taught a graduate level Introduction to Semantic Web class.

Columbia University — New York, NY
Postdoctoral Research Scientist — July 2008 - December 2008
Part of the Internet Real-Time Laboratory's ITA (International Technology Alliance in Network and Information Science) project. Working on communication content analysis to discover semantic and topic similarities in order to detect success or potential failure in communication.

Columbia University — New York, NY
Graduate Research Assistant — Oct 2001 - May 2008
Part of the Internet Real-Time Laboratory developing GloServ, an ontology-based context-aware service discovery system which operates in a globally distributed network. Created a service discovery architecture that uses a description logic ontology for classifying services and mapping it onto a hierarchical peer-to-peer network.

IBM Research Labs   Hawthorne, NY

Summer Intern   Jun 2004 - Sept 2004

Designed and implemented a document file collaboration system on pervasive devices. Created a SIP extension to handle document file collaboration between multiple endpoints. Implemented a prototype on a desktop and a Pocket PC, in J2ME, JNI and C++ using IBM WebSphere Device Developer and Microsoft Embedded Visual C++.

Avaya Research Labs   Basking Ridge, NJ

Summer Intern   Jun 2002 - Sept 2002

Developed an enterprise communication system where Bluetooth devices are able to communicate with each other and make outbound calls using the Session Initiation Protocol.

Summit Systems, Inc.   New York, NY
Product Developer   Jul 1998 - Feb 2000
Developed software in the back office group to produce documents for payment messages, and trade
tickets. Trained new hires on the business and technical aspects of the Summit applications.

Teaching Experience

Instructor, Introduction to Semantic Web, Spring 2011

Instructor, Data Structures in C, Columbia University, Spring 2007

Instructor, Introduction to Computer Science in C, Columbia University, Fall 2006

Teaching Assistant, Computer Networks, Columbia University, Spring 2002

Teaching Assistant, Data Structures, Queens College, Fall 1995

Private Tutor, Undergraduate Mathematics and Computer Science, 1996-1998

Publications

K. Arabshian A Framework for Personalized Context-aware Search of Ontology-based Tagged Data
7th International Conference on Services Computing (IEEE SCC 2010) Work-In-Progress, Miami,
FL, July 2010.

K. Arabshian and A. Mehta, Distributed Service Composition and Execution Framework 6th World
Congress on Services (IEEE Services 2010) Poster Session, Miami, FL, July 2010.

K. Daenen, B. Theethen, D. Vanderfeesten, B. Vrancken, E. Waegeman, J. Moons, M. Dragan, M.
Bojin, M. Strugaru, K. Arabshian and P. Bosch, The Personal Internet, Bell Labs Technical Journal
15(1), 3-22 2010.

K. Arabshian, C. Dickmann, and H. Schulzrinne, Ontology-based Service Discovery Front-end In-
terface for GloServ, The 6th Annual European Semantic Web Conference (ESWC2009), Heraklion,
Greece, May 2009

PhD Thesis: Knarig Arabshian, Ontology-based Service Discovery in a Globally Distributed Net-
work, PhD Thesis, Computer Science Department, Columbia University, New York, NY 10027, May
2008

K. Arabshian and H. Schulzrinne, *An Ontology-based Hierarchical Peer-to-Peer Global Service Dis-
covery System* , Journal of Ubiquitous Computing and Intelligence Volume 1, Number 2, pp 133-144,
December 2007.

K. Arabshian, C. Dickmann, H. Schulzrinne, *Service Composition in an Ontology-based Global
Service Discovery System*, Columbia University Technical Report CUCS-033-07, New York, NY,
September 2007 (Under Submission).

K. Arabshian and H. Schulzrinne, *Combining Ontology Queries with Key Word Search in Service
Discovery*, ACM/IFIP/USENIX 8th International Middleware Conference, Work In Progress Track,
Newport Beach California, November 2007.

K. Arabshian and H. Schulzrinne, *Distributed Context-aware Agent Architecture for Global Service
Discovery*, The Second International Workshop on Semantic Web Technology For Ubiquitous and
Mobile Applications (SWUMA'06), Trentino, Italy, August 2006.

K. Arabshian and H. Schulzrinne, *Hybrid Hierarchical and Peer-to-Peer Ontology-based Global Ser-
vice Discovery System*, Columbia University Technical Report CUCS-016-05, New York, NY, April
2005.

K. Arabshian, H. Schulzrinne, D. Trossen, and D. Pavel, *GloServ: Global Service Discovery using the OWL Web Ontology Language*, International Workshop on Intelligent Environments, Colchester, England, June 2005.

K. Arabshian and H. Schulzrinne, *GloServ: Global Service Discovery Architecture*, First Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services (Mobiquitous), Boston, MA, August, 2004.

K. Arabshian and H. Schulzrinne, *A Generic Event Notification System Using XML and SIP* 3rd New York Metro Area Networking Workshop (NYMAN), Brooklyn, NY, September 2003.

K. Arabshian and H. Schulzrinne, *A SIP-based Medical Event Monitoring System*, 5th International Workshop on Enterprise Networking and Computing in Healthcare Industry (Healthcom 2003), Santa Monica, CA, June 2003.

H. Schulzrinne and K. Arabshian, *Providing Emergency Services in Internet Telephony*, IEEE Internet Computing Magazine May/June 2002 (Vol. 6 No. 3) and SPIE Proceedings Vol 4868, Boston, MA, 2002.

Professional Activities

TPC Member IEEE International Conference on Communications (ICC 2009)

TPC Member IEEE Global Communication Conference (GLOBECOMM 2008)

TPC Member IEEE Workshop on Semantic Web meets the Deep Web (SWDW'08)

TPC Member IEEE International Symposium on Multimedia (ISM 2006)

TPC Member IEEE International Conference on Communications (ICC 2003)

Reviewer IEEE International Conference on Communications (ICC 2007)

Reviewer IEEE International Conference on Communications (ICC 2006)

Reviewer IEEE International Conference on Communications (ICC 2005)

Student Activities

Vice President, Women In Computer Science, Department of Computer Science, Columbia University, 2005-2006

PhD Representative, Department of Computer Science, Columbia University, 2003-2005

Honors and Awards

Computer Science Department Preceptorship, Columbia University, 2006-2007

Computer Science Department Service Award, Columbia University, 2006, 2007

Fellowship Grant Recepient, Nokia Research Center, 2004-2007

Dean's List, Queens College, 1994 - 1998

Computer Science Departmental Award for Achievement of Excellence, Queens College, 1998

UPE Association Computer Science Honor Society, Queens College, 1996-1998

Presidential Achievers Honor Roll, Queens College, 1995-1996

Member of Honors in Mathematics and Natural Sciences, Queens College, 1994-1998

References

Henning G. Schulzrinne
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BT Research, Suffolk, UK
+44 7918 711 695, info@dirk-trossen.de

Ted Shortliffe
The University of Arizona, Phoenix, AZ
(602) 827-2010, ted.shortliffe@arizona.edu

Peter F. Patel-Schneider
Bell Laboratories, Murray Hill, NJ
(908) 582-4471, pfps@research.bell-labs.com

Gail E. Kaiser
Columbia University, New York, NY
(212) 939-7081, kaiser@cs.columbia.edu

Doree Seligmann
Avaya Research Labs, Basking Ridge, NJ
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