

Farnoush Banaei-Kashani

Education and Training

Sharif University of Technology, Tehran, Iran	Computer Engineering	BS, 1996
University of Southern California, Los Angeles, CA	Electrical Engineering	MS, 2001
University of Southern California, Los Angeles, CA	Computer Science	PhD, 2006
Integrated Media Systems Center (NSF ERC), Los Angeles, CA	Computer Science	Postdoc, 2008

Research and Professional Experience

2021-present Associate Professor, Computer Science and Engineering Department, University of Colorado Denver | Anschutz Medical Campus

2014-2021 Assistant Professor, Computer Science and Engineering Department, University of Colorado Denver | Anschutz Medical Campus

2018-present Director, Data-Driven Cybersecurity, GAANN PhD Fellowship

2017-present Director, Data Science in Biomedicine, MS Program Concentration on Data Science in Biomedicine

2015-present Director, Big Data Science and Engineering, GAANN PhD Fellowship

2014-present Director, Big Data Management and Mining, Computer Science and Engineering Department, University of Colorado Denver | Anschutz Medical Campus

2013-2014 Lecturer, Computer Science Department, University of Southern California

2009 - 2014 Research Scientist, Integrated Media Systems Center (NSF ERC), University of Southern California

2009-2014 Associate Director of Research and Education, Integrated Media Systems Center (NSF ERC), University of Southern California

2007 - 2008 Lecturer, Computer Science Department, University of Southern California

Publications

- Nguyen, A., Alqurashi, R., Raghebi, Z., Banaei-Kashani, F., Halbower, A. C., & Vu, T., "A Lightweight And Inexpensive In-ear Sensing System For Automatic Whole-night Sleep Stage Monitoring", ACM Sensys 2016. **[Best Paper award]**
- S. Helmi, F. Banaei-Kashani, "Spatiotemporal Range Pattern Queries on Large-scale Co-movement Pattern Datasets", IEEE Big Data 2017.
- Farnoush Banaei-Kashani, Cyrus Shahabi, Seon Ho Kim, Luciano Nocera, Giorgos Constantinou, Ying Lu, Yinghao Cai, Gérard G. Medioni, Ramakant Nevatia, "Janus - Multi Source Event Detection and Collection System for Effective Surveillance", Journal of Information Processing Systems (JIPS), Vol 10, No 1, pp. 1-22.
- Farnoush Banaei Kashani, Gérard Guy Medioni, Khanh Nguyen, Luciano Nocera, C. Shahabi, Ruizhe Wang, Cesar E Blanco, Yian Chen, Yuchen Chung, "Monitoring Mobility Disorders at Home using 3D Visual Sensors and Mobile Sensors", Wireless Health 2013.
- F. Banaei-Kashani, M. Asghari, M Rahmani, C. Shahabi, Lisa Brenskelle, "SDPF: A Framework for Online, Real-time Cleansing of Upstream Operating Data", 2013 SPE Western Regional Meeting. **US Patent App.** 13/781,62

- Lucas Marzec, Sridharan Raghavan, Farnoush Banaei-Kashani, Seth Creasy, Edward L. Melanson, Leslie Lange, Debashis Ghosh, Michael A. Rosenberg, "Device-measured physical activity data for classification of patients with ventricular arrhythmia events: A pilot investigation", PLOSONe, October 2018.
- Farnoush Banaei-Kashani. 2015. Efficient K-nearest neighbor search in time-dependent spatial networks. **U.S. Patent 9,062,985**, issued June 23, 2015.
- H. Shirani-Mehr, F. Banaei-Kashani and C. Shahabi, "Reachability Query in Large Evolving Contact Networks", VLDB 2012.
- Akdogan, U. Demiryurek, F. Banaei-Kashani and C. Shahabi, "Voronoi-based Geospatial Query Processing with MapReduce", IEEE CloudCom 2010 **[Best Paper award]**
- Shahabi, M. Jahangiri and F. Banaei-Kashani, "ProDA: An end-to-end wavelet-based OLAP system for massive datasets", IEEE Computer, Vol. 41, No. 4, April 2008.
- Farnoush Banaei-Kashani, Parisa Ghaemi, Bahman Movaqar, Seyed Jalal Kazemitabar, Efficient maximal reverse skyline query processing, Geoinformatica (2017) 21:549–572.

Synergistic Activities

1. Course Development:

I have developed and taught a pipeline of seven courses in data management, data mining and data science:

- Database System Concepts (undergraduate level)
- Database Systems (graduate level)
- Data Mining (graduate level),
- Big Data Mining (advanced graduate level)
- Data Science (undergraduate and graduate level)
- Big Data Science (advanced graduate level)
- Big Data Systems (undergraduate and graduate level)

2. Professional Society Services:

- Conference Chair: ACM SIGSPATIAL 2018-2019
- Workshop Chair: IEEE Workshop on Big Spatial Data (BSD), 2016-2018, International Workshop on GeoStreaming (IWGS), 2012-2017
- Technical Program Committee Member: ACMGIS 2015, GeoRich 2015 (in conjunction with SIGMOD/PODS), ACMGIS 2014, GeoRich 2014 (in conjunction with SIGMOD/PODS), ACMGIS 2013, MDM 2013 (Demo Track), MobiDE 2013 (in conjunction with SIGMOD), ACMGIS 2012; SensorKDD 2012 (in conjunction with KDD), ACS 2012 (in conjunction with SDM), SensorKDD 2011 (in conjunction with KDD), AP2PS 2011, ICDE 2010, AP2PS 2010, AP2PS 2009, SNAS 2009
- Referee: TODS, TPDS, TKDE, ACM-MM, SIGMOD, VLDB, ICDE, SIGCOMM, SIGKDD, CIKM, DEXA, SSTDM, USENIX