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Amr Magdy is an Assistant Professor of Computer Science and Engineering and a co-founding faculty member of the Center for Geospatial Sciences at UC Riverside. His research interests include big data management, spatial data management, large-scale data analytics, indexing, and main-memory management. His research has been published in prestigious research venues, including ACM SIGSPATIAL, VLDB, VLDB Journal, ACM SIGMOD, ACM TSAS, IEEE ICDE, and IEEE TKDE. Amr's research is recognized as the best paper runner-ups in ACM SIGSPATIAL 2023 and IEEE MDM 2023, selected among the best papers in SSTD 2023, ACM SIGSPATIAL 2019, and IEEE ICDE 2014, and has been incubated by several industrial collaborators. Amr has received several research awards, including the Google-CAHSI, Microsoft, and NSF CAREER awards in 2023.

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Research Highlights

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Overview: Amr's recent research focuses on scalability and expressiveness for spatial data science. He particularly emphasizes enabling social scientists to analyze large-scale spatial data using advanced spatial statistical analysis techniques. Traditional computational systems for spatial data have primarily addressed basic queries like spatial kNN, spatial range, and spatial join queries, including variations such as kNN-join queries. However, these queries fall short of addressing the comprehensive needs of spatial statistical analysis. Statistical methods are extensively utilized by social scientists, including geographers, environmental scientists, and ecologists. Consequently, over the past two decades, there has been a parallel development of computing tools, resulting in Python and R libraries like PySAL, GeoDa, GeoPy, and GeoPandas, catering to this broad user base. These users are well-positioned to conduct meaningful analyses on the plethora of available datasets. Notably, ~14 million datasets indexed by Google Dataset Search, predominantly originating from geosciences and social

sciences, constitute 45.2% of all datasets, accessed by a third of all users and primarily dominated by spatial data. However, current tools encounter scalability issues with substantial spatial data, such as the vast amounts of social media data rich in insights for social scientists. Amr's work seeks to fill this void by empowering social scientists with scalable computing systems for spatial statistical analysis on large datasets. Additionally, it enhances the expressiveness of queries, enabling previously unfeasible queries due to scalability constraints.

Amr's recent work spans various aspects of scalable and expressive spatial data science. He has significantly enhanced the scalability and expressiveness of spatial grouping queries, which are foundational for spatial statistical analyses. His improvements cover the grouping of spatial points, lines, and polygons across diverse settings and applications. Notably, he has developed advanced spatial regionalization queries, essentially sophisticated polygon grouping queries, that surpass existing methods with up to a 200x increase in runtime speed and the capacity to handle datasets up to 10 times larger. Additionally, he has facilitated the generation of random distributions, empowering the statistical assessment of spatial regionalization solution quality. Side by side, Amr's work integrates machine learning to augment both the scalability and accuracy of spatial queries. This integration encompasses a variety of learning techniques to refine spatio-textual selectivity estimation in dynamic streaming data, identify spatial hotspots along networks with statistical rigor, and enhance the efficiency of spatial joins in distributed settings.

Interdisciplinary collaborations: Interdisciplinary projects, developed in partnership with social scientists, are at the heart of Amr's research, and pivotal to the mission of the UCR Center for Geospatial Sciences, which thrives as an interdisciplinary cluster of faculty members. His interdisciplinary projects include collaborators from University of California, Riverside (UCR), as well as the American Association of Geographers, Texas State University, San Diego State University, San Diego Mesa College, the California Geographic Alliance, and Sweetwater Union High School District.

Notable achievements: Amr's research is published and recognized in top research venues for big data management and spatial data analysis, including ACM SIGSPATIAL, IEEE ICDE, VLDB, SSTD, IEEE MDM, VLDB Journal, ACM TSAS, IEEE TKDE, Springer GeoInformatica, in addition to interdisciplinary venues. His papers are shortlisted for best paper awards at five major conferences for spatial and spatio-temporal data analysis, IEEE ICDE'14, twice at ACM SIGSPATIAL'19 and '23, IEEE MDM'23 and SSTD'23. He is also awarded the best paper at the 6th International Conference on Information and Communication Technologies for Disaster Management (ICT-DM'19). His research is being supported by eight research funding grants from the USA National Science Foundation (NSF), Google, and Microsoft, four as a Principal Investigator (PI), two as a co-PI and two as a collaborator. This includes the NSF CAREER Award 2023, a distinction that ranks among the most prestigious recognitions for assistant professors from NSF. So far, we raised total of 4.67M USD along with collaborators, including 1.24M USD dedicated to supporting his research group.

News

Received the Microsoft MSI research award 2023 to support edge-based geospatial data analysis.

Our paper have been selected among the best papers of ACM SIGSPATIAL 2023.

Our paper have been selected among top-5 best papers of SSTD 2023.

Our paper have been selected as the best paper runner-up in IEEE MDM 2023.

Received the [Google-CAHSI research award 2023](#) to support regionalization queries at a system level.

Received the [NSF CAREER award 2023](#) to support scalable spatial data science.

Serving as a vice PC chair (senior PC member) for ACM SIGSPATIAL 2023.

Serving as a PC member for ACM SIGMOD 2023, ICDE 2023, VLDB 2024.

Serving as a reviewer for ACM TODS, ACM TSAS, IEEE TKDE, and VLDB Journal.

Serving as a co-organizer in different roles for ACM SIGSPATIAL 2023, ICDE 2023, MDM 2023, and SSTD 2023.

Our papers have been accepted in ACM SIGSPATIAL 2022.

Our paper on p-regions spatial regionalization has been accepted in VLDB 2022.

Our paper on expressive max-p spatial regionalization has been accepted in IEEE ICDE 2022.

Our paper on social spatio-keyword search on streams has been accepted in ACM TSAS.

Our papers have been accepted in ACM SIGSPATIAL 2021.

Our paper on learning-based estimation on spatio-textual streams has been accepted in IEEE ICDE 2021.

Our paper on spatial group-by queries has been accepted in ACM SIGSPATIAL 2020.

Our demo paper on spatial queries on user-generated has been accepted in IEEE ICDE 2020.

Our survey paper on microblogs data management has been accepted in VLDB Journal.

Received the [NSF CRII award 2019](#) to support scalable queries on user-generated data.

Our papers have been accepted in ACM SIGSPATIAL 2019, **and one of them has been selected among the best papers.**

Received [NSF RIDIR award](#) to support scalable spatial analysis for social sciences.

Our paper on spital-keyword search on streaming data has been accepted in ACM SIGSPATIAL 2018.

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Honors and Awards

NSF CAREER Award 2023.

Microsoft Research Award 2023.

Google-CAHSI Research Award 2023.

Best research paper runner-up in IEEE MDM 2023.

Top-5 best papers of SSTD 2023, invited to Springer GeoInformatica special issue.

NSF CRII Award 2019.

Best research paper candidate in ACM SIGSPATIAL 2019, invited to IEEE TSAS.

Best research paper candidate in IEEE ICDE 2014, invited to IEEE TKDE special issue.

Finalist in Microsoft Research Ph.D. Fellowship 2014, Data Management and Data Mining.

Doctoral Dissertation Fellowship 2015, University of Minnesota.

Best demonstration award in UMN U-Spatial Symposium 2012 and 3rd in U-Spatial Symposium 2014.

Ten travel grants to major conferences in databases and spatial databases.

Prof. Naaem Aboutaleb award for academic excellence - Alexandria University - 2008. (awarded to top two students among all the department's 67 students)

Bronze medals in 3rd and 4th Egyptian Olympiad in Informatics (EOI 2005 and 2006).

National Scholarship for Academic Excellence, Egyptian Ministry of Higher Education - 2003 (among top 0.1% students nation-wide)

Invited Talks

University of Maryland - College Park - 2023.

Iowa State University - 2023.

University of California - Santa Barbara - 2019.

Keynote talk in the 2019 International Portable Emissions Measurement System (PEMS) Conference.

SoCal Social Workshop - 2018.

University of California - Irvine - 2018.

Funding



PI - NSF Award IIS-2237348: [CAREER: Scalable Spatial Data](#)

[Science on User-generated Data](#). PI: Amr Magdy, \$531,707, 4/1/2023-3/31/2028.



PI - Google-CAHSI Award: Scalable Spatial Regionalization in Spatial Spherical Spaces. PI: Amr Magdy, \$100,000, 9/1/2023-8/30/2024.



PI - Microsoft Award: Near-Real-Time Inference on the Edge. PI: Amr Magdy, \$70,000, 1/1/2024-12/31/2024.



PI - NSF Award IIS-1849971: [CRII: III: Scalable Noise-filtering and Community Queries on User-generated Data](#). PI: Amr Magdy, \$174,854, 8/15/2019-7/31/2021.



Co-PI - NSF Award SES-1831615: [RIDIR: Scalable Geospatial Analytics for Social Science Research](#). PI: Sergio Rey, Co-PIs: Ran Wei, Amr Magdy, Vassilis Tsotras, \$1,000,000, 10/1/2018-9/30/2021.



Co-PI - NSF Award CNS-2031418: [Collaborative Research: Encoding Geography - Scaling up an RPP to achieve inclusive geocomputational education](#). PI: Coline Dony, Co-PIs: Sergio Rey, Amr Magdy, Rachel Russell, \$999,979, 1/1/2021-12/31/2023.



Senior Personnel - NSF Award IIS-2123444: [Collaborative Research: HDR DSC: DS-PATH: Data Science Career Pathways in the Inland Empire](#). PI: Mariam Salloum, Co-PIs: Analisa Flores, Xinping Cui, Paea LePendou, Vassilis Tsotras, \$1,025,000, 10/1/2021-9/30/2024.



Senior Personnel - NSF Award CNS-1837577: [Encoding Geography: Building Capacity for Inclusive Geo-Computational Thinking with Geospatial Technologies](#). PI: Coline Dony, Co-PIs: Atsushi Nara, Sergio Rey, Michael Solem, \$299,989, 11/1/2018-10/31/2020.

Research Projects

Scalable Spatial Data Science for Social Scientists



Through an interdisciplinary team of geographic information scientists and computer scientists, this project provides the next generation of scalable and high performance spatial analytical techniques. The main project goal is bridging two worlds: the spatial data management and geospatial analysis libraries that perform complex statistical analysis on geospatial datasets. This requires addressing the existing challenges that have hindered intensive utilization of geospatial data from different sources for more extensive analysis. To achieve this, the project will innovate new computational algorithms and combine them with scalable spatial and spatio-temporal data management techniques for regionalization, polygon-based queries, spatial-aware clustering, computational inference, and more.

CSforAll: Computational Thinking in Education



This work is based on a researcher-practitioner partnership (RPP) to articulate K-12 and college pathways that will expand opportunities for all students to develop geo-computational thinking skills. This pilot RPP is composed of geographers, computer science educators, and geospatial technology specialists experienced in serving underrepresented minority students and communities. This exploratory research is to inform educational standards and tested approaches to help institutions understand the capacity they need to modernize geography education. The efforts is being extended to other scientific curriculum, such as biology and chemistry.

Scalable Analysis on User-generated Data



This project innovates scalable techniques and systems for [Microblogs data](#), e.g., tweets, online reviews on TripAdvisor, Yelp, or Amazon, user comments on news websites, or social media micro-posts like comments, check-ins and interactions. We produced system prototypes, [Kite](#) and Taghreed. The ultimate goal of these systems is to serve as a scalable backend that facilitate building applications on top of Microblogs data hiding all the data management details from the developers, just like database systems work as backend for relational data applications. Taghreed is already powering a startup company serving social media analysis services for Middle Eastern customers, initially incubated by [Wadi Makkah](#) innovation incubator.

Publications

A full list of publications is maintained on [DBLP](#)



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2023 (8)

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GeoTrend: spatial trending queries on real-time microblogs. Magdy, A.; Aly, A. M.; Mokbel, M. F.; Elnikety, S.; He, Y.; Nath, S.; and Aref, W. G. In Ravada, S.; Ali, M. E.; Newsam, S. D.; Renz, M.; and Trajcevski, G., editor(s), *Proceedings of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, GIS 2016, Burlingame, California, USA, October 31 - November 3, 2016*, pages 7:1–7:10, 2016. ACM



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Understanding Language Diversity in Local Twitter Communities. Magdy, A.; Ghanem, T. M.; Musleh, M.; and Mokbel, M. F. In Blustein, J.; Herder, E.; Rubart, J.; and Ashman, H., editor(s), *Proceedings of the 27th ACM Conference on Hypertext and Social Media, HT 2016, Halifax, NS, Canada, July 10-13, 2016*, pages 331–332, 2016. ACM



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On main-memory flushing in microblogs data management systems. Magdy, A.; Alghamdi, R.; and Mokbel, M. F. In *32nd IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May 16-20, 2016*, pages 445–456, 2016. IEEE Computer Society



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GARNET: A holistic system approach for trending queries in microblogs. Jonathan, C.; Magdy, A.; Mokbel, M. F.; and Jonathan, A. In *32nd IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May 16-20, 2016*, pages 1251–1262, 2016. IEEE Computer Society



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Microblogs data management and analysis. Magdy, A.; and Mokbel, M. F. In *32nd IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May 16-20, 2016*, pages 1440–1443, 2016. IEEE Computer Society



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Scalable Microblogs Data Management. Magdy, A. In Dragut, E. C.; and Shen, H. T., editor(s), *Proceedings of the SIGMOD 2016 PhD Symposium, San Francisco, California, USA, June 26, 2016*, pages 32–36, 2016. ACM



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Microblogs Data Management Systems: Querying, Analysis, and Visualization. Mokbel, M. F.; and Magdy, A. In Özcan, F.; Koutrika,

G.; and Madden, S., editor(s), *Proceedings of the 2016 International Conference on Management of Data, SIGMOD Conference 2016, San Francisco, CA, USA, June 26 - July 01, 2016*, pages 2219–2222, 2016. ACM



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Taqreer: A System for Spatio-temporal Analysis on Microblogs.

Magdy, A.; Musleh, M.; Tarek, K.; Alarabi, L.; Al-Harthi, S.; Elmongui, H. G.; Ghanem, T. M.; Ghani, S.; and Mokbel, M. F. *IEEE Data Eng. Bull.*, 38(2): 68–76. 2015.



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Demonstration of Taghreed: A system for querying, analyzing, and visualizing geotagged microblogs. Magdy, A.; Alarabi, L.; Al-Harthi, S.; Musleh, M.; Ghanem, T. M.; Ghani, S.; Basalamah, S. M.; and Mokbel, M. F. In Gehrke, J.; Lehner, W.; Shim, K.; Cha, S. K.; and Lohman, G. M., editor(s), *31st IEEE International Conference on Data Engineering, ICDE 2015, Seoul, South Korea, April 13-17, 2015*, pages 1416–1419, 2015. IEEE Computer Society



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Towards a Microblogs Data Management System. Magdy, A.; and Mokbel, M. F. In Jensen, C. S.; Xie, X.; Zadorozhny, V.; Madria, S.; Pitoura, E.; Zheng, B.; and Chow, C., editor(s), *16th IEEE International Conference on Mobile Data Management, MDM 2015, Pittsburgh, PA, USA, June 15-18, 2015 - Volume 1*, pages 271–278, 2015. IEEE Computer Society



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Context Awareness in Mobile Systems. Sarwat, M.; Bao, J.; Chow, C.; Levandoski, J. J.; [Magdy, A.](#); and Mokbel, M. F. In Colace, F.; Santo, M. D.; Moscato, V.; Picariello, A.; Schreiber, F. A.; and Tanca, L., editor(s), *Data Management in Pervasive Systems*, of Data-Centric Systems and Applications, pages 257–287. Springer, 2015.



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Taghreed: a system for querying, analyzing, and visualizing geotagged microblogs. [Magdy, A.](#); Alarabi, L.; Al-Harathi, S.; Musleh, M.; Ghanem, T. M.; Ghani, S.; and Mokbel, M. F. In Huang, Y.; Schneider, M.; Gertz, M.; Krumm, J.; and Sankaranarayanan, J., editor(s), *Proceedings of the 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, Dallas/Fort Worth, TX, USA, November 4-7, 2014*, pages 163–172, 2014. ACM



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VisCAT: spatio-temporal visualization and aggregation of categorical attributes in twitter data. Ghanem, T. M.; [Magdy, A.](#); Musleh, M.; Ghani, S.; and Mokbel, M. F. In Huang, Y.; Schneider, M.; Gertz, M.; Krumm, J.; and Sankaranarayanan, J., editor(s), *Proceedings of the 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, Dallas/Fort Worth, TX, USA, November 4-7, 2014*, pages 537–540, 2014. ACM



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Mercury: A memory-constrained spatio-temporal real-time search on microblogs. [Magdy, A.](#); Mokbel, M. F.; Elnikety, S.; Nath, S.; and He, Y. In Cruz, I. F.; Ferrari, E.; Tao, Y.; Bertino, E.; and Trajcevski, G., editor(s), *IEEE 30th International Conference on Data Engineering*,

Chicago, ICDE 2014, IL, USA, March 31 - April 4, 2014, pages 172–183, 2014. IEEE Computer Society



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Mars: Real-time spatio-temporal queries on microblogs. Magdy, A.; Aly, A. M.; Mokbel, M. F.; Elnikety, S.; He, Y.; and Nath, S. In Cruz, I. F.; Ferrari, E.; Tao, Y.; Bertino, E.; and Trajcevski, G., editor(s), *IEEE 30th International Conference on Data Engineering, Chicago, ICDE 2014, IL, USA, March 31 - April 4, 2014*, pages 1238–1241, 2014. IEEE Computer Society



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A demonstration of MNTG - A web-based road network traffic generator. Mokbel, M. F.; Alarabi, L.; Bao, J.; Eldawy, A.; Magdy, A.; Sarwat, M.; Waytas, E.; and Yackel, S. In Cruz, I. F.; Ferrari, E.; Tao, Y.; Bertino, E.; and Trajcevski, G., editor(s), *IEEE 30th International Conference on Data Engineering, Chicago, ICDE 2014, IL, USA, March 31 - April 4, 2014*, pages 1246–1249, 2014. IEEE Computer Society



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Exploiting Geo-tagged Tweets to Understand Localized Language Diversity. Magdy, A.; Ghanem, T. M.; Musleh, M.; and Mokbel, M. F. In Nascimento, M. A.; Renz, M.; Emrich, T.; Mouratidis, K.; and Züfle, A., editor(s), *Proceedings of Workshop on Managing and Mining Enriched Geo-Spatial Data, GeoRich@SIGMOD 2014, Snowbird, UT, USA, June 27, 2014*, pages 2:1–2:6, 2014. ACM



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2013 (1)

MNTG: An Extensible Web-Based Traffic Generator. Mokbel, M. F.; Alarabi, L.; Bao, J.; Eldawy, A.; [Magdy, A.](#); Sarwat, M.; Waytas, E.; and Yackel, S. In Nascimento, M. A.; Sellis, T. K.; Cheng, R.; Sander, J.; Zheng, Y.; Kriegel, H.; Renz, M.; and Sengstock, C., editor(s), *Advances in Spatial and Temporal Databases - 13th International Symposium, SSTD 2013, Munich, Germany, August 21-23, 2013. Proceedings*, volume 8098, of *Lecture Notes in Computer Science*, pages 38–55, 2013. Springer



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2012 (2)

The anatomy of Sindbad: a location-aware social networking system. Sarwat, M.; Bao, J.; Eldawy, A.; Levandoski, J. J.; [Magdy, A.](#); and Mokbel, M. F. In Ghinita, G.; Neville, J.; and Newsam, S. D., editor(s), *Proceedings of the 5th ACM SIGSPATIAL International Workshop on Location-Based Social Networks, LBSN 2012, Redondo Beach, California, USA, November 6, 2012*, pages 1–4, 2012. ACM



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Sindbad: a location-based social networking system. Sarwat, M.; Bao, J.; Eldawy, A.; Levandoski, J. J.; [Magdy, A.](#); and Mokbel, M. F. In Candan, K. S.; Chen, Y.; Snodgrass, R. T.; Gravano, L.; and Fuxman, A., editor(s), *Proceedings of the ACM SIGMOD International Conference on Management of Data, SIGMOD 2012, Scottsdale, AZ, USA, May 20-24, 2012*, pages 649–652, 2012. ACM



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2011 (1)

Discovering Clusters with Arbitrary Shapes and Densities in Data Streams. [Magdy, A.](#); Yousri, N. A.; and El-Makky, N. M. In Chen, X.; Dillon, T. S.; Ishibuchi, H.; Pei, J.; Wang, H.; and Wani, M. A., editor(s), *10th International Conference on Machine Learning and*

Applications and Workshops, ICMLA 2011, Honolulu, Hawaii, USA, December 18-21, 2011. Volume 1: Main Conference, pages 279–282, 2011. IEEE Computer Society



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2010 (2)

SIC-Means: A Semi-fuzzy Approach for Clustering Data Streams Using C-Means. Magdy, A.; and Bassiouny, M. K. In Schwenker, F.; and Gayar, N. E., editor(s), *Artificial Neural Networks in Pattern Recognition, 4th IAPR TC3 Workshop, ANNPR 2010, Cairo, Egypt, April 11-13, 2010. Proceedings*, volume 5998, of *Lecture Notes in Computer Science*, pages 96–107, 2010. Springer



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Web-based statistical fact checking of textual documents. Magdy, A.; and Wanas, N. M. In Cortizo, J. C.; Carrero, F. M.; Cantador, I.; Jiménez, J. A. T.; and Rosso, P., editor(s), *Proceedings of the 2nd International Workshop on Search and Mining User-Generated Contents, SMUC@CIKM 2010, Toronto, ON, Canada, October 30, 2010*, pages 103–110, 2010. ACM



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Book Chapters

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Amr Magdy. [Query Processing: Computational Geometry](#). Chapter in *Encyclopedia of Big Data Technologies*, Springer International Publishing, Editors: Sherif Sakr and Albert Zomaya, 2020.

Amr Magdy. [Query Processing: Computational Geometry](#). Chapter in *Encyclopedia of Big Data Technologies*, Springer International Publishing, Editors: Sherif Sakr and Albert Zomaya, 2018.

Mohamed Sarwat, Jie Bao, Chi-Yin Chow, Justin Levandoski, Amr Magdy, and Mohamed F. Mokbel. *Context Awareness in Mobile Systems*. Chapter in *Data Management in Pervasive Systems* book, Data-Centric Systems and Applications Book Series, Springer Verlag, Editors: Francesco Colace, Massimo De Santo, Vincenzo Moscato, Antonio Picariello, Fabio A. Schreiber, and Letizia Tanca, 2015.

Patents

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Mohamed Fathalla Hassan Mokbel, Amr Magdy Mahmoud Ahmed. [System and Method for Microblogs Data Management](#). Provisionally filed in the U.S. Patent and Trademark Office on September 10, 2014, Ref number: 434819US8.

Thanaa Ghanem, Sohaib Ghani, Mohamed Mokbel, Mashaal Musleh, Amr Magdy. [System And Method For Data Visualization](#). Provisionally filed in the U.S. Patent and Trademark Office on January 5, 2017, Ref number: 20170004190.

Teaching

Winter 2024: CS 236 - Advanced Database Management Systems

Fall 2023: CS 225 - Spatial Computing

Winter 2023: CS 141 - Intermediate Data Structures and Algorithms

Fall 2022: CS 10C - Introduction to Data Structures and Algorithms

Fall 2022: CS 225 - Spatial Computing

Spring 2022: CS 10C - Introduction to Data Structures and Algorithms

Winter 2022: CS 10C - Introduction to Data Structures and Algorithms

Fall 2021: CS 225 - Spatial Computing

Spring 2021: CS 10C - Introduction to Data Structures and Algorithms

Winter 2021: CS 10C - Introduction to Data Structures and Algorithms

Fall 2020: CS 225 - Spatial Computing

Winter 2020: CS 225 - Spatial Computing

Fall 2019: CS 141 - Intermediate Data Structures and Algorithms

Fall 2018: CS 141 - Intermediate Data Structures and Algorithms

Spring 2018: CS 260 - Spatial Data Modeling and Analysis

Winter 2018: CS 141 - Intermediate Data Structures and Algorithms

Spring 2016: CSci 5708: Architecture and Implementation of Database Management Systems (at University of Minnesota)

News Depot

Aug 2019: Received [NSF CRII award](#) to support scalable queries for scientific explorations on user-generated data.

Aug 2019: [Full research paper](#) and [demo paper](#) accepted to appear in [ACM SIGSPATIAL 2019](#).

Jul 2019: [Research paper](#) accepted to appear in [Springer Geoinformatica](#) journal.

Jun 2019: [Research vision paper](#) accepted to appear in [SSTD 2019](#).

Jun 2019: [Full research survey paper](#) accepted to appear in VLDB Journal.

Jun 2019: Serving as a reviewer for grant proposals for Puerto Rico Science, Technology & Research Trust, Puerto Rico

May 2019: Serving as a technical program committee member for [IEEE ICDE 2020](#)

May 2019: General co-chair for [ACM SIGSPATIAL GeoEd 2019 Workshop](#)

May 2019: General co-chair for [ACM SIGSPATIAL LENS 2019 Workshop](#)

April 2019: Serving as a technical program committee member for [ACM SIGSPATIAL 2019](#) conference

Mar 2019: Delivering a keynote talk on spatio-temporal big data management and its applications on vehicles in the 2019 International Portable Emissions Measurement System (PEMS) Conference.

Feb 2019: Serving as a technical program committee member for [the International Symposium on Spatial and Temporal Databases \(SSTD\) 2019](#).

Feb 2019: Serving as a registration chair for [the International Symposium on Spatial and Temporal Databases \(SSTD\) 2019](#).

Feb 2019: Serving as a publicity co-chair for [IEEE Big Data 2019](#) conference

Jan 2019: Organizing one-day workshop on Geospatial Data Science in collaboration with [ESRI](#) .

Nov 2018: [Full research paper](#) accepted to appear in the Journal of Location Based Services.

Nov 2018: Serving as a publicity co-chair for ACM SIGSPATIAL 2019 conference

Nov 2018: Serving as a technical program committee member for [Innovate-Data 2019](#)

Oct 2018: Serving as a technical program committee member for [IEEE MDM 2019](#)

Sep 2018: \$1M NSF grant awarded to support [Scalable Geospatial Analytics for Social Science Research](#).

Sep 2018: New NSF grant awarded for developing geo-computational curriculum and [Building Capacity for Inclusive Geo-Computational Thinking](#). In collaboration with the American Association of Geographers and San Diego State University.

Aug 2018: [Full research paper](#) accepted in [ACM SIGSPATIAL 2018](#) conference.

Jul 2018: General co-chair for [ACM SIGSPATIAL LENS 2018](#) Workshop

Jun 2017: Serving as a reviewer for grant proposals for National Science Foundation (NSF), USA

Jun 2018: Presenting *Big Data Research: An Overview* in [CS4All Code Camp](#) at UC Riverside

May 2018: Serving as a technical program committee member for [ACM SIGSPATIAL 2018](#) conference

May 2018: Presenting *A Bird's-eye View on Microblogs Data Analysis* in [SoCal Social Workshop](#) at UC Irvine

Apr 2018: My PhD dissertation has been selected as the sole departmental nominee for the Best Dissertation Competition.

Apr 2018: Serving as a guest editor for a special issue in *Frontiers in Big Data*.

Mar 2018: An encyclopedic article published in Springer Encyclopedia of Big Data Technologies: [Query Processing: Computational Geometry](#).

Jan 2018: A [position paper](#) contributed to [NSF GSI workshop on GEOSPATIAL SOFTWARE: CONNECTING BIG DATA WITH GEOSPATIAL DISCOVERY AND INNOVATION](#).

Dec 2017: Serving as a reviewer for grant proposals for Natural Sciences and Engineering Research of Canada (NSERC), Canada

Nov 2017: Serving as a technical program committee member for [SSDBM 2018](#)

Nov 2017: Presenting *Kite: A Scalable Microblogs Data Management System* in [Information Systems Group \(ISG\) Seminar](#) at UC Irvine

Oct 2017: Serving as a treasurer co-chair ACM SIGSPATIAL 2018 conference

Oct 2017: Serving as a guest editor for a special issue in *Springer GeoInformatica*

Jul 2017: [Thomson Reuters](#) is sponsoring the [ACM SIGSPATIAL LENS 2017](#) Workshop

Jul 2017: [Officially joined UC Riverside CSE Department as an Assistant Professor](#)

Jun 2017: General co-chair and sponsorship chair for [ACM SIGSPATIAL LENS 2017](#) Workshop

Jan 2017: [Kite demo paper](#) accepted in IEEE ICDE 2017.

Jan 2017: The first version of [Kite system](#) is released.

Sep 2016: A [full paper](#) accepted in ACM SIGSPATIAL 2016.

Mar 2016: A [tutorial](#) accepted in ACM SIGMOD 2016.

Dec 2015: A [tutorial](#) and [two full papers](#) accepted in IEEE ICDE 2016

Dec 2015: A tutorial, a full research paper, and a full industrial paper accepted in IEEE ICDE 2016.

- Amr Magdy and Mohamed F. Mokbel. "[Microblogs Data Management and Analysis](#)"(Tutorial). In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May, 2016. Slides available [here](#).
- Amr Magdy, Rami Alghamdi, and Mohamed F. Mokbel. "[On Main-memory Flushing in Microblogs Data Management Systems](#)". In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May, 2016.
- Christopher Jonathan, Amr Magdy, Mohamed F. Mokbel, and Albert Jonathan. "[GARNET: A Holistic System Approach for Trending Queries in Microblogs](#)"(Industrial Paper). In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2016, Helsinki, Finland, May, 2016.

Oct 2015: A full research paper accepted in IEEE TKDE.
Amr Magdy, Mohamed F. Mokbel, Sameh Elnikety, Suman Nath, and Yuxiong He. "[Venus: Scalable Real-time Spatial Queries on Microblogs with Adaptive Load Shedding](#)". In IEEE Transactions on Data Engineering, October, 2015.

Jun 2015: A full industrial paper in IEEE MDM 2015.
Amr Magdy and Mohamed F. Mokbel. "[Towards a Microblogs Data Management System](#)". In Proceeding of IEEE International Conference on Mobile Data Management, Pittsburgh, Pennsylvania, June, 2015.

Apr 2015: A demo paper accepted in IEEE ICDE 2015.
Amr Magdy, Louai Alarabi, Saif Al-Harathi, Mashaal Musleh, Thanaa M. Ghanem, Sohaib Ghani, Saleh Basalamah, and Mohamed F. Mokbel. "[Demonstration of Taghreed: A System for Querying, Analyzing, and Visualizing Geotagged Microblogs](#)". In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2015, Seoul, South Korea, April, 2015.

Oct 2014: **Our full research paper in IEEE ICDE 2014 has been selected among best ICDE papers and invited to TKDE special issue.**

Sep 2014: A full paper accepted in ACM SIGSPATIAL 2014.
Amr Magdy, Louai Alarabi, Saif Al-Harathi, Mashaal Musleh, Thanaa M. Ghanem, Sohaib Ghani, and Mohamed F. Mokbel. "[Taghreed: A System](#)

for Querying, Analyzing, and Visualizing Geotagged Microblogs". In Proceeding of the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, ACM SIGSPATIAL 2014, Dallas, TX, November, 2014.

Sep 2014: A demo paper accepted in ACM SIGSPATIAL 2014. Thanaa M. Ghanem, Amr Magdy, Mashaal Musleh, Sohaib Ghani, and Mohamed F. Mokbel. "[VisCAT: Spatio-Temporal Visualization and Aggregation of Categorical Attributes in Twitter Data](#)". In Proceeding of the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, ACM SIGSPATIAL 2014, Dallas, TX, November, 2014.

Jun 2014: A research paper accepted in GeoRich 2014 workshop, in conjunction with SIGMOD 2014.

Amr Magdy, Thanaa M. Ghanem, Mashaal Musleh, and Mohamed F. Mokbel. "[Exploiting Geo-tagged Tweets to Understand Localized Language Diversity](#)". In Proceedings of the First International ACM Workshop on Managing and Mining Enriched Geo-Spatial Data, GeoRich 2014, in conjunction with the ACM SIGMOD Conference on Management of Data, SIGMOD 2014, Snowbird, UT, June, 2014.

Oct 2013: A full research paper accepted in IEEE ICDE 2014. Amr Magdy, Mohamed F. Mokbel, Sameh Elnikety, Suman Nath, and Yuxiong He. "[Mercury: A Memory-Constrained Spatio-temporal Real-time Search on Microblogs](#)". In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2014, Chicago, IL, April, 2014.

Oct 2013: Two demo papers accepted in IEEE ICDE 2014.

- Amr Magdy, Ahmed M. Aly, Mohamed F. Mokbel, Sameh Elnikety, Yuxiong He, and Suman Nath. "[Mars: Real-time Spatio-temporal Queries on Microblogs](#)". In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2014, Chicago, IL, April, 2014.
- Mohamed F. Mokbel, Louai Alarabi, Jie Bao, Ahmed Eldawy, Amr Magdy, Mohamed Sarwat, Ethan Waytas, and Steven Yackel. "[A Demonstration of MNTG - A Web-based Road Network Traffic Generator](#)". In Proceedings of the IEEE International Conference on Data Engineering, ICDE 2014, Chicago, IL, April, 2014.

