

Ali Sarvghad

Research Assistant Professor

University of Massachusetts Amherst
College of Information and Computer Sciences
140 Governors Dr, Amherst, MA, 01002

asarv@cs.umass.edu
Citizenship: Canadian
<http://groups.cs.umass.edu/asarv/>
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RESEARCH INTERESTS

Information Visualization, Human-Computer Interaction (HCI), Applied Visual Analytics, Cognition and Perception of Visualization.

EDUCATION

- 2016 **PhD in Computer Science**, University of Victoria, Victoria, BC.
- 2009 **Master of Software Engineering**, University of Malaya, KL, Malaysia.
- 2007 **Bachelor of Computer Science**, University Science Malaysia, KL, Malaysia.

ACADEMIC AWARDS & HONORS

- 2021 **Honorable Mention Award**, ACM Designing Interactive Systems (*DIS*)
- 2020 **Best Paper Award**, Computer Supported Cooperative Work and Social Computing (*CSCW*)
- 2010 **Best 4 Papers**, IEEE Visual Analytics Science and Technology (*VAST*)

RESEARCH POSITIONS

- 2019-present **Research Assistant Professor**, University of Massachusetts Amherst, Amherst, MA.
- 2016-2018 **Postdoctoral Researcher**, UCSD, San Diego, CA.
Advisor: Nadir Weibel
- 2009-2016 **Research Assistant**, University of Victoria, Victoria, BC, Canada.
Advisor: Melanie Tory
- 2006-2008 **Research Assistant**, University of Malaya, KL, Malaysia.
Advisor: Albert Yeap

GRANT SUPPORT

National Science Foundation (NSF), SATC: CORE: Medium: “Principles and Algorithms for Visual Data Exploration Under Differential Privacy”, (Co-PI)
Award Period: 7/1/20 - 6/30/23, **\$1,191,106**

National Science Foundation (NSF), S&CC Planning Grant: “MAPPING INSTABILITY: Building an Intelligent Community Agent Platform for Understanding the Impact of Large Scale Crisis on Small Town Communities”. (Co-PI)
Award Period: 01/01/21 - 09/30/22, **\$146,941**

UMass ADVANCE Collaborative Research Seed Grants, "MAPPING INSTABILITY: The Effects of the Pandemic on the Civic Life of a Small Town." (Co-PI)

Award Period: 11/11/20 - 11/11/21, **\$15,000**

UMass ADVANCE Collaborative Research Seed Grants, "Towards Reducing Social Inequality in Local-level Public Participation by Giving Voice to Marginalized Populations" (Co-PI)

Award Period: 04/14/21 - 04/14/22, **\$12,000**

UMass Interdisciplinary Faculty Research Award, "Sustaining the Creative Arc: Implementing a Cross-Disciplinary Analysis and Problem-Solving Method for Design Thinking" (Co-PI)

Award Period: 2020 - 2022, **\$40,000**

PUBLICATIONS

Note: The premium venue in visualization and visual analytics is IEEE VIS. Highest quality VIS/VAST papers appear in a special issue of IEEE Transactions on Visualization and Computer Graphics (TVCG). Top-tier venues in human-computer interaction research include the ACM conferences CHI and CSCW.

Refereed Journal & Conference Publications

[C] **Ali Sarvghad**, "Age Matters: A probe into Data Visualization for Older Adults", *ACM Conference on Human Factors in Computing (CHI)*, 2022, in submission.

[C] Mahmood Jasim, Christopher Collins, **Ali Sarvghad**, Narges Mahyar, "Supporting Serendipitous Discovery and Balanced Analysis of Unstructured Text with Interaction-Driven Metrics and Bias-Mitigating Suggestions", *ACM Conference on Human Factors in Computing (CHI)*, 2022, in submission.

[C] Cindy Xiong, **Ali Sarvghad**, Cagatay Demirlap, Jake M. Hofman, Deniel G. Goldstien, "Investigating Perceptual Biases in Icon Arrays", *ACM Conference on Human Factors in Computing (CHI)*, 2022, in submission.

[JC] **Ali Sarvghad**, Rolando Franqui-Nadal, Rebecca Reznik-Zellen, Ria Chawla, Narges Mahyar, "Scientometric Analysis of Interdisciplinary Collaboration and Gender Trends in 30 Years of IEEE VIS Publications", *IEEE Transaction of Visualization and Computer Graphics (TVCG)*, 2021, in submission.

[JC7] Mahmood Jasim, Enamul Hoque, **Ali Sarvghad** and Narges Mahyar, "CommunityPulse: Facilitating Community Input Analysis by Surfacing Hidden Insights, Reflections, and Priorities", *ACM Designing Interactive Systems (DIS)*, 26 pages, 2021, to appear.

 **Honorable Mention**

[JC6] Mahmood Jasim, Pooya Khaloo, Somin Wadhwa, Amy X. Zhang, **Ali Sarvghad** and Narges Mahyar, "CommunityClick: Capturing and Reporting Community Feedback from Town Halls to Improve Inclusivity", *The 23rd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, pp. 1-32, 2020.

 **Best Paper Award**

[JC5] Dan Zhang, **Ali Sarvghad**, and Gerome Miklau. "Investigating Visual Analysis of Differentially Private Data." *IEEE Transactions on Visualization and Computer Graphics (TVCG)* 27, 10 pages, 2020.

[JC4] **Ali Sarvghad**, Bahador Saket, Alex Endert, and Nadir Weibel. "Embedded merge & split: Visual adjustment of data grouping." *IEEE transactions on visualization and computer graphics (TVCG)*, pp: 800-809. 2018.

[JC3] **Ali Sarvghad**, Melanie Tory and Narges Mahyar, "Visualizing Dimension Coverage to Support Exploratory Analysis", *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 10 pages, pp.21-30, 2016.

[C2] **Ali Sarvghad**, and Melanie Tory. "Exploiting analysis history to support collaborative data analysis." *Graphics Interface Conference (GI)*, pp. 123-130, 2015.

[C1] **Ali Sarvghad**, and Melanie Tory. "Exploiting history to reduce interaction costs in collaborative analysis." *IEEE Conference on Visual Analytics Science and Technology (VAST)*, pp. 273-274, 2014.

Refereed Workshop Papers

[W4] Mahmood Jasim, Amy X. Zhang, **Ali Sarvghad** and **Narges Mahyar**. "Inclusivity in Town Halls: Challenges, Paradigm Shift, and Opportunities", *Civic Technologies Workshop*, in conjunction with CSCW 2020, 5 pages, 2020.

[W3] **Ali Sarvghad**, Sanjay Mehta, Davey Smith, and Nadir Weibel. "Visualizing Completeness Uncertainty to Support Medical Data Exploration and Analysis". *Visual Analytics for Health Care Workshop (IEEE VIS'17 companion)*, 2017.

[W2] Narges Mahyar, **Ali Sarvghad**, and Melanie Tory, "Roles of Notes in Co-located Collaborative Visualization", *Workshop on Collaborative Visualization on Interactive Surfaces (CoVis 2009)*, 4 pages, Oct. 2009.

[W1] **Ali Sarvghad**, Narges Mahyar and Melanie Tory, "History Tools for Collaborative Visualization," *Workshop on Collaborative Visualization on Interactive Surfaces (CoVis 2009)*, 4 pages, Oct. 2009.

Refereed Abstract, Poster & Demo Papers

[A1] Mahmood Jasim, Pooya Khaloo, Somin Wadhwa, Amy X. Zhang, **Ali Sarvghad** and **Narges Mahyar**. "CommunityClick: Towards Improving Inclusivity in Town Halls". In *Companion Publication of the 2020 Conference on Computer Supported Cooperative Work and Social Computing (CSCW'20 Companion)*, ACM, pp. 37-41, 2020.

Other Publications: Magazines, Commentary Papers & Dissertation

[OP2] Iman Deznabi, Tamanna Motahar, **Ali Sarvghad**, Madelina Fiterau and Narges Mahyar, "Impact of the COVID-19 Pandemic on the Academic Community: Results from a survey conducted at University of Massachusetts Amherst", *ACM Digital Government: Research and Practice 2.2*, pp. 1-12, 2021.

[OP1] Narges Mahyar, Mahmood Jasim and **Ali Sarvghad**, "Designing Technology for Sociotechnical Problems: Challenges & Considerations, *IEEE Computer Graphics and Applications*", (Volume: 40, Issue: 6), pp. 76-87, 2020.

Dissertation & Thesis

Ali Sarvghad, Tracking and Visualizing Dimension Space Coverage for Exploratory Data Analysis. Ph.D. Dissertation. University of Victoria, 2014.

Ali Sarvghad, Dynamic display of text using lexical chains. MSC Thesis. University of Malaya, 2008.

TEACHING EXPERIENCE

Instructor

Spring 2020 **Data Visualization and Exploration** (COMPSCI 570), UMass Amherst.
Spring 2019 **Data Visualization and Exploration** (COMPSCI 590V), UMass Amherst.
Spring 2018 **Data Visualization and Exploration** (COMPSCI 590V), UMass Amherst.

PROFESSIONAL ACTIVITIES

Program Committee Member

2017 - 2020 IEEE VIS 2021, Short Papers
2015 Graphics Interface (*GI*), 2016
2015-2016 DEXIS 2015, Workshop on Data Exploration for Interactive Surfaces, in conjunction with Interactive Tabletops and Surfaces (*ITS*), 2015

Reviewer

2014-2020 IEEE VIS
2016-2019, ACM Human Factors in Computing Systems (*CHI*)
2021
2018 IEEE PacificVis
2014-2019 Human Computer Interaction Journal
2019 Creativity and Cognition
2018 Interactive Surfaces and Spaces (*ISS*)
2015 Graphics Interface (*GI*)

Internal Service

2021 Executive Committee
2020 Informatics Faculty Recruiting Search Committee
2021 PhD Admission Committee

SUPERVISION & MENTORSHIP

Ph.D. Student Supervision, UMass Amherst

Mohammad Hadi Nezhad Fall 2019- Fall 2020.
Zachary While, Summer 2020 - present

Ph.D. Thesis Committees, UMass Amherst

Dan Zahng, Fall 2019-2020, Currently Ph.D. Student at University of Utah.

Undergraduate Supervision (REU and Honors Thesis), UMass Amherst

Rolando Franqui Nadal, REU, Fall 2020-present.
Ria Chawla, REU, Fall 2020-present.
Sabrina Liang, REU, Summer 2021.

Adythia Kethu, REU, Summer 2021.
Meet Agrawal, REU, Summer 2021.
Tanishk Jain, REU, Summer 2021.
Anurag Gumidelli, REU, Summer 2021.