NARGES MAHYAR

Design Lab Fellow and Postdoctoral Researcher
University of California San Diego
Department of Cognitive Science and Design Lab
Atkinson Hall 1601, La Jolla CA 92093-0436

nmahyar@ucsd.edu
http://nmahyar.ucsd.edu
Citizenship: Canadian
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RESEARCH INTERESTS

Human-Computer Interaction (HCI), Information Visualization, Social Computing, Crowdsourcing, Digital Civics, and Design Thinking.

EDUCATION

2014 — **PhD in Computer Science**, University of Victoria, Victoria, BC.
Industrial sponsor: SAP Business Objects
Advisor: Melanie Tory
Dissertation: *Supporting Sensemaking during Collaborative Visual Analytics*

2008 — **Master of Information Technology**, University of Malaya, KL, Malaysia.
Advisor: Wai (Albert) Yeap
Thesis: *Implementation of Creative-pad: A New Creativity Support Tool*

1998 — **Bachelor of Electrical Engineering**, Tehran Azad University, Tehran, Iran.

AWARDS

2017 — **Outstanding Paper Award**, Council of Educators in Landscape Architecture (*CELA*) 2017.

2016 — **Honorable Mention Award**, Interactive Surfaces and Spaces (*ISS*), 2016

2016 — **Best Poster Honorable Mention**, Graphics Interface (*GI*), 2016

2014 — **Best Paper Award**, IEEE Visual Analytics Science and Technology (*VAST*)

2014 — **Best Research Note Honorable Mention**, Graphics, Animation and New Media (*GRAND*), 2014

2010 — **Best 4 papers**, IEEE Visual Analytics Science and Technology (*VAST*)

2008 — **SAP ARC North America Fellowships** (Multi-touch Interfaces), University of Victoria ($105,000)

RESEARCH EXPERIENCE

2016-present — **Design Lab Fellow and Postdoctoral Researcher**, UCSD, San Diego, CA.

Mentor: **Steven P. Dow**

Research Projects: **CommunityCrit** and **D4SD** (Design for San Diego): two online platforms for engaging the public in civic issues.

2014-2016 — **Postdoctoral Fellow**, University of British Columbia, Vancouver, BC.

Mentors: **Kellogg Booth**, **Cynthia Girling**, and **Ronald Kellett**

Research Projects: **UD Co-Spaces** (Urban Design Collaborative Spaces), a tabletop centered multi display technology for public engagement in urban design charrettes. I also co-supervised a PhD student to analyze an ethnography study on use of collaborative technology in coordination meetings.

2008-2014	**Research Assistant**, University of Victoria, Victoria, BC, Canada.
	Research Projects: **CLIP** (Collaborative Intelligent Pad) and **CoSpaces** (Collaborative Spaces): two novel visualization tools and interaction techniques to facilitate sensemaking during collaborative visual analysis.
Summer 2009	**Research Intern**, SAP, Vancouver, BC, Canada.
	Mentor: **Michael McAllister** I observed and interviewed business data analysts in action to acquire better knowledge of collaborative work dynamics and requirements in the business intelligence domain.
2006-2008	**Research Assistant**, University of Malaya, KL, Malaysia.
	I designed and developed a creativity support tool, **Creative-Pad**, to assist creative directors in an advertising agency to come up with new idea.

PUBLICATIONS

Note: Top-tier venue in HCI research is CHI. Top-tier venue in visual analytics is VAST. Highest quality VAST papers appear in a special issue of IEEE Transactions on Visualization and Computer Graphics (TVCG). ISS is the premier venue for research on design, development and use of emerging tabletop, interactive spaces and multi-surface technologies.

Refereed Journal Papers

[J3] Ali Sarvghad, Melanie Tory, and **Narges Mahyar**, "Visualizing Dimension Coverage to Support Exploratory Analysis", *IEEE Transactions on Visualization and Computer Graphics,* 10 pages*,* 2016. [Acceptance Rate: 21%]

[J2] **Narges Mahyar** and Melanie Tory, "Supporting Communication and Coordination in Collaborative Sensemaking", *IEEE Transactions on Visualization and Computer Graphics*, pp. 1633-1642, Oct. 2014. [Acceptance Rate: 22.6%] **[Best Paper Award, VAST 2014]**

[J1] **Narges Mahyar**, Ali Sarvghad, and Melanie Tory, "Note Taking in Co-located Collaborative Visual Analytics: Analysis of an Observational Study", *Information Visualization*, vol. 11, no. 3, pp. 190-204, July 2012. [**Special issue on Best Papers of Visual Analytics Science and Technology (VAST) 2010 (top 4 papers)**]

Refereed Conference Papers

[C7] **Narges Mahyar**, Michael R. James, Michelle M. Ng, Reginald A. Wu, Steven P. Dow, "CommunityCrit: Inviting the Public to Improve and Evaluate Urban Design Ideas through Micro-Activities", ACM Human Factors in Computing Systems (*CHI 2018*), 14 pages, (*to appear*).

[C6] Girling, Cynthia, Ronald W. Kellett, Kellogg S. Booth, **Narges Mahyar**, Kelly J. Burke, Alix Krahn, "Collaboration Tools to Support Informed Public Engagement", *Landscape Research Record,* NO. 06*,* pp. 264-278, 2017. **[Outstanding Paper Award]**

[C5] **Narges Mahyar**, Kelly Burke, Siyi Meng, Jialiang Xiang, Kellogg S. Booth, Cynthia Girling, and Ronald Kellett, "UD Co-Spaces: A Table-Centered Multi-Display Environment for Public Engagement in Urban Design Charrettes", *Interactive Surfaces and Spaces* (*ISS '16)*, ACM, pp. 109-118. [Acceptance Rate: 28%] **[Honorable Mention Award]**

[C4] Sarmad Mehrbod, Sheryl Staub-French, Melanie Tory, and **Narges Mahyar**, "A Framework for Classifying BIM Design Coordination Issues", *Construction Specialty Conference*, June 8-10, 10 pages, 2015.

[C3] **Narges Mahyar**, Ali Sarvghad, Melanie Tory, and Tyler Weeres, "Observations of Record-Keeping in Co-located Collaborative Analysis", HCI Mini-Track, HICSS 2013, pp. 460-469, Jan. 2013.

[C2] **Narges Mahyar**, Ali Sarvghad, and Melanie Tory, "A Closer Look at Note Taking in the Co-located Collaborative Visual Analytics Process," *IEEE Visual Analytics Science and Technology (VAST'10)*, pp. 171-178, 2010. [Acceptance Rate: 28%]. **[Selected as BEST VAST papers (top 4 papers) for publication in the "Information Visualization" journal]**

[C1] Wai K. Yeap, Tommi Opas, and **Narges Mahyar**, **"**On Two Desiderata for Creativity Support Tools", *Conference on Computational Creativity*, pp. 180-189, 2010.

Refereed Workshop Papers
[W6] **Narges Mahyar**, Weichen Liu, Dangyi Liu, Steven P. Dow, Enabling Crowdsourced Visualizations to Support Large-Scale Civic Engagement, *Workshop on Crowd-Civic Systems*, CSCW 2017, 5 pages, 2017.

[W5] **Narges Mahyar**, Sung-Hee Kim, and Bum Chul Kwon, "Towards a Taxonomy for Evaluating User Engagement in Information Visualization", *Workshop on Personal Visualization: Exploring Everyday Life*, IEEE VIS 2015, 4 pages, 2015.

[W4] Ronald Kellett, Kellogg Booth, **Narges Mahyar**, "Collaboration Technology for Stakeholder Engagement in Urban Planning", *Information Technology & City Life Workshop, CSCW 15*, March 14-16, 2 pages, 2015.

[W3] **Narges Mahyar**, Ali Sarvghad, Melanie Tory and Tyler Weeres "CoSpaces: Workspaces to Support Co-located Collaborative Visual Analytics," *DEXIS 2011*, 4 pages, Nov 2011.

[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.

Workshop (as co-organizer)

Michael Sedlmair, Petra Isenberg, Tobias Isenberg, **Narges Mahyar**, and Heidi Lam, Proceedings of the Sixth Workshop on "Beyond Time and Errors: Novel Evaluation Methods for Visualization" (BELIV 2016, October 24, Baltimore, Maryland, USA), October 2016.

Demonstrations, Abstracts, Research Notes, and Doctoral Colloquium

[6] Cynthia Girling, Kellogg S. Booth, **Narges Mahyar**, Ronald Kellett, and Kelly Burke, "Fast and Early Feedback: Collaboration Tools to Support Informed Public Engagement", *Council of Educators in Landscape Architecture Conference*, abstract, 4 page, May 2017.

[5] **Narges Mahyar**, Weichen Liu, Sijia Xiao, Jacob T. Browne, Ming Yang, Steven P. Dow, "ConsesnsUs: Visualizing Points of Disagreement for Multi-Criteria Collaborative Decision Making", *CSCW 2017*, demonstration, 4 pages, 2017.

[4] **Narges Mahyar**, Kellogg S. Booth, Cynthia Girling, and Ronald Kellett, "Just Scratching the Surface, the Long Road to Effective Cross-Display Interaction", *Cross-Surface '16 workshop*, in conjunction with ACM ISS'16, 7 pages, 2016.

[3] **Narges Mahyar**, Siyi Meng, Jialiang Xiang, Kellogg S. Booth, Cynthia Girling, and Ronald Kellett, "A Multi-Display Environment for Community Planning", Graphics Interface, 2 pages, 2016. **[Best Poster Honorable Mention]**

[2] **Narges Mahyar**, and Melanie Tory, "CLIP: A Visual Thinking Space to Support Collaborative Sensemaking and Reasoning", Graphics, Animation and New Media (GRAND) NCE AGM, 4 pages, 2014. **[Best Research Note Honorable Mention]**

[1] **Narges Mahyar**, "Supporting Note Taking in Co-located Collaborative Visual Analytics on Large Interactive Surfaces", Part of the Doctoral Colloquium, *ITS 11 ACM International Conference on Interactive Tabletops and Surfaces*, 4 pages, Nov 2011.

In Progress

Sarmad Mehrbod, Sheryl Staub-French, **Narges Mahyar**, Melanie Tory, "Beyond the Clash: Investigating BIM-Based Building Design Coordination Issue Representation and Resolution", *Journal of Automation in Construction*, 33 pages, (*under 2nd review*).

Sarmad Mehrbod, Sheryl Staub-French, **Narges Mahyar**, Melanie Tory, "Characterizing Interactions with BIM Tools in Building Design Coordination Meetings", *Journal of Automation in Construction*, 48 pages, (*under 2nd review*).

INVITED TALKS

2018	**Virginia Tech**, Department of Computer Science. Social Computing to Enhance Public Engagement in Urban Design at Scale
2018	**Ignite Conference 2018**, UC San Diego, CA. Social Computing to Enhance Public Engagement in Urban Design at Scale
2018	**Innovations in Participatory Democracy Conference 2018**, Phoenix, AZ. Social Computing to Improve Public Engagement in Urban Planning
2018	**University of Illinois at Chicago**, Department of Computer Science. Social Computing to Enrich and Scale Public Engagement
2017	**Changemakers Day**, UC San Diego, CA Technologies for Increasing Public Engagement in Civic Issues
2017	**Collaboratory for Downtown Innovation** (CDI), San Diego, CA. Collective Innovation for Business and Civics
2016	**Autodesk Research**, Toronto, ON. Designing Collaborative Visual Analytics Tools: From Supporting Experts to Engaging the Public
2016	**York University**, Toronto, ON. Designing Collaborative Visual Analytics Tools: From Supporting Experts to Engaging the Public
2016	**Simon Fraser University**, SIAT, Vancouver. BC. Large Interactive Surfaces for Collaboratively Exploring and Driving Meaning from Complex Data
2016	**Microsoft Research**, Redmond, WA. Designing Collaborative Visual Analytics Tools: From Supporting Experts to Engaging the Public

2016	**University Washington Bothell**, Bothell, WA. From Desktops to Tabletops: Opportunities and Challenges
2016	**Boston University**, Boston, MA. Technology for Design: A Road Map
2014	**University of British Columbia**, Vancouver, BC. Supporting Team Communication and Coordination in Visual Analytics

PROFESSIONAL ACTIVITIES

Program Committee Member

2018	CHI 2018 Late Breaking Work *(LBW),* 2018
2017	Creativity and Cognition Conference (*CC*), 2017
2016	Interactive Surfaces and Spaces (*ISS*), 2016
2016	Graphics Interface (*GI*), 2016
2015	DEXIS 2015, Workshop on Data Exploration for Interactive Surfaces, in conjunction with Interactive Tabletops and Surfaces (*ITS*), 2015
2015-2016	Steering Committee, HCI@UBC, Monthly Seminar Series, UBC

Organizing Committee

2016	BELIV (*Beyond Time and Errors: Novel Evaluation Methods for Visualization*) 2016, in conjunction with IEEE VIS 2016
2009	SAP Workshop, one day workshop at SAP to collectively brainstorm design ideas for a collaborative visual analytics tool (**CoSpaces**) with a large group of designers, developers and project managers.

Reviewer

2015-18	ACM Human Factors in Computing Systems (*CHI*)
2016-18	Computer-Supported Cooperative Work and Social Computing (*CSCW*)
2017	Human Computer Interaction Journal
2014-17	IEEE Visual Analytics Science and Technology (*VAST*)
2014-15	IEEE Computer Graphics and Applications Journal
2017	Graphics Interface (*GI*)
2015	Visualization Viewpoint
2015	IEEE Information Visualization Journal (*InfoVis*)
2015	EuroVis (*Eurographics/ IEEE VGTC Symposium on Visualization*)
2014	Graphics, Animation and New Media (*GRAND*)

TEACHING EXPERIENCE

Co-Instructor

Fall 2017	**Civic Design** (Cogs 160) along with Prof. Steven Dow, UC San Diego.

Guest Lecturer

Spring 2016	**Graduate Research Colloquium** (*IAT 805*), School of Arts and Interactive Technology, Simon Fraser University.
Summer 2014	**Human-Computer Interaction** (*SENG 310*), University of Victoria.

Spring 2014	**Advanced Methods for Human-Computer Interaction** (CSC 578C), University of Victoria.
Summer 2013	**Human-Computer Interaction** (*SENG 310*), University of Victoria
Fall 2008	**Object-Oriented Software Development** (*SENG 330*), UVic.

Teaching Assistant

Spring 2014	**Human-Computer Interaction** (*SENG 310*), University of Victoria.
Spring 2014	**Advanced Methods for Human-Computer Interaction** (*CSC 578*), UVic.
Summer 2013	**Human-Computer Interaction** (*SENG 310*), University of Victoria.
Fall 2013	**Research Skills** (*CSC 595*), University of Victoria.
Fall 2012	**Software Development Methods** (*SENG 265*), University of Victoria.
Fall 2012	**Fundamentals of Programming** (*CSC 110*), University of Victoria.
Spring 2012	**Computers & Information Processing** (*CSC 105*), University of Victoria.
Spring 2011	**Elementary Computing** (*CSC 100*), University of Victoria.
Fall 2011	**Elementary Computing** (*CSC 100*), University of Victoria.
Spring 2009	**Human-Computer Interaction** (*SENG 310*), University of Victoria.

Consultant and Teaching Assistant Administrator

Summer 2011 & Spring 2013	**Consultant**: helped students with Java, C and HTML assignments.
Fall 2012	**Fundamentals of Programming** (*CSC 110*), University of Victoria As TA admin, I assisted instructors to design assignments, marking schemes and coordinated the markers.

SUPERVISION AND MENTORSHIP

Winter 2017	Mentoring undergrad students, University of California San Diego. 33 - Diana Nguyen, BSc. Cognitive Science, UCSD. 32- Alan Kuo, BSc. Computer Science, UCSD. 31 - Chaolei Hua, BSc. Math and Computer Science, UCSD. 30 - Maggie Chan, BSc. Cognitive Science, UCSD. 29 - Yabo Shi, BSc. Cognitive Science, UCSD. 28 - Judy Chun, BSc. Cognitive Science, UCSD.
Fall 2017	Mentored undergrad and grad students, University of California San Diego. 27 - Andres Baez, BSc. Cognitive Science, UCSD. 26 - Vasudev Patel, MSc. Computer Science, UCSD. 25 - Dingcheng Hu, BSc. Computer Science, UCSD. 24 - Joshua Tjong, BSc. Cognitive Science, UCSD.
Summer 2017	Mentored undergrad students, University of California San Diego. 23 - Alejandro Panduro, BSc. Cognitive Science, UCSD. 22 - Sanika Moharana, BSc. Cognitive Science, UCSD. 21 - Nancy Zheng, BSc. Cognitive Science, UCSD. 20 – Reginald A. Wu, BSc. Computer Engineering, UCSD. 19 - Michael R. James, BSc. HCI, Carnegie Melon University. 18- Michelle M. Ng, BSc. Visual and Environmental Studies & Computer Science, Harvard University.

Fall 2016- Spring 2017	Mentored undergrad and grad students, University of California San Diego. 17- Joanne Cho, BSc. Cognitive Science, UCSD. 16 - Eric Richards, BSc. Cognitive Science, UCSD. 15 - Karen Ma, BSc. Cognitive Science, UCSD. 14 - Lauren Liu, BSc. Cognitive Science, UCSD. 13 - David Luu, BSc. Computer Engineering, UCSD. 12 - Weichen Liu, MSc. Computer Science, UCSD. 11 - Dangyi Liu, MSc. Cognitive Science, UCSD.
Summer 2016	Mentored a PhD candidate, University of British Columbia. 10 -Kelly J. Burke, PhD, iSchool, UBC.
2014-2016	Co-supervised a PhD candidate, University of British Columbia. 9 -Sarmad Mehrbod, PhD, Civil Engineering, UBC.
Summer 2015	Co-supervised 4 undergraduate students, University of British Columbia. 8 -Siyi (Cathy) Meng, BSc. Computer Science, UBC. 7 -Jialiang Xiang, BSc. Computer Science, UBC. 6 -Austin Liu, BSc. Computer Science, UBC. 5 -Yunpiao (Withney) Bai, BSc. Computer Science, UBC.
Fall 2013	Mentored two graduate students, University of Victoria. 4- Leandro Collares, MSc. Computer Science, UVic. 3- Wanda Boyer, MSc. Computer Science, UVic.
Fall 2012	Co-supervised an undergrad student, University of Victoria. 2- Anthony Bashi, BSc. Computer Science, UVic.
Spring & Summer 2010	Co-supervised an undergrad software developer, University of Victoria. 1- Tyler Weeres, BSc. Computer Science, UVic.

INDUSTRY EXPERIENCE

2004 - 2005	**Leader of the E-banking Team**, **Leader of E-payment Research Group**, ITC, Tehran, Iran. Researched and proposed solutions to implement E-banking and E-payment services over the national network.
2003 - 2004	**IT Expert**, **Member of IT Services Research Group**, ITC, Tehran, Iran. Researched technologies to transmit video using ITC infrastructure. I contributed to successful implementation of a Video on Demand service.
2002 - 2003	**Network Management Analyst**, ITC, Tehran, Iran. Researched hardware/software solutions to improve network performance.
2000 - 2002	**Network Infrastructure Designer**, Member of Network Research Group, ITC, Tehran, Iran. Redesigned network hardware and software for all of Iran's major provinces to support increased network traffic (from 250,000 to 43 million users).

COMMUNITY INVOLVEMENT

2015-2016	**Member of Women in Computer Science** (FOWCS), University of British Columbia, BC, Canada. Developed HCI related curriculum for grade 10-12.
Summer 2015	**Volunteer**, University of British Columbia, BC, Canada. Helped out Computer Science Department with Girls Learning Code (9-13

years) to host two summer camps.

2008-2014	**Volunteer**, University of Victoria, Victoria, BC, Canada. Organized many events including department of computer science first Big Data Pechakucha (IdeaFest 2013), and winter social events.
2008-2011	**Teacher and Member of the Executive Committee of Internet Course for Seniors**, University of Victoria, Computer Science Volunteer Program. Taught basic skills for navigating the Internet and using email.
2008-2011	**Member of Women in Engineering and Computer Science**, UVic.
2001-2005	**Co-chair, Women in development extra curriculum activities**, ITC, Tehran, Iran. Organized women in development extra curriculum fine arts, and sport activities.
1999-2000	**Founder of Creative Fine Arts Department**, Creative Children's Institute, Isfahan, Iran. Developed curriculum for a series of classes, managed a team of 4 instructors and taught creative fine arts to 5-12 year old children.
1998-2000	**Co-founder of Creative Children's Institute**, Isfahan, Iran. Head of Technology Department. Developed course materials and taught introduction to electronics to 5-12 years old children.
1996-1998	**Fine Arts Instructor**, Azad University, Tehran, Iran. Taught fine arts principles to undergrad engineering students.

FINE ARTS BACKGROUND AND EDUCATION

2000-2004	Studied Modern Art Principles, Techniques and History, Gholamhossein Nami's Art Academy, Tehran, Iran.
1998-2000	Studied Modern Art Principles and Techniques, Mahmood Samandaryan's.
1994-1998	Studied Watercolor Painting, Atashzad Academy of Art, Mohammad Reza Atashzad, Tehran, Iran.
1991-1994	Studied Drawing and Painting Principles, Mojgan Mousapour, Isfahan, Iran.

FINE ARTS EXHIBITIONS

2010	Engineering's got talent, University of Victoria, Victoria, Canada.
2010	Group exhibition in Cost Collective Gallery (Abstraction), Victoria, Canada.
2005	Individual exhibition in Museum of Contemporary Art of Isfahan, Iran.
2004	Group exhibition in Atashzad Art Gallery, Tehran, Iran.
2004	Group exhibition in University of 'Sanate Ab va Bargh' Tehran, Iran.
2003	Group exhibition in Atashzad Art Gallery, Tehran, Iran.
2002	Group exhibition in Atashzad Art Gallery, Tehran, Iran.
2002	Individual exhibition in Daryabeygi Gallery, Tehran, Iran.
2001	Group exhibition in Haft Peykar Gallery, Tehran, Iran.
2000	Group exhibition in Kosar Gallery, Isfahan, Iran.
1996	Group exhibition, engineering students, Tehran, Iran.

REFERENCES

Kellogg S. Booth (Postdoctoral Co-Advisor)
Professor, Department of Computer Science
University of British Columbia

ksbooth@cs.ubc.ca

Steven Dow (Postdoctoral Advisor)
Assistant Professor, Cognitive Science
University California San Diego

spdow@ucsd.edu

Cynthia Girling (Postdoctoral Co-Advisor)
Professor, School of Architecture and Landscape Architecture
University of British Columbia

cgirling@sala.ubc.ca

Melanie Tory (PhD Advisor)
Senior Research Scientist at Tableau Software
(Formerly: Associate Professor, Department of Computer Science
University of Victoria)

mtory@tableau.com