Michael Lee Gleicher

Department of Computer Sciences
University of Wisconsin-Madison
1210 West Dayton St.
Madison, WI 53706
gleicher@cs.wisc.edu
http://www.cs.wisc.edu/~gleicher

Positions

2009 – present – Professor, Dept. of Computer Sciences, University of Wisconsin-Madison
2019 – present – Affiliate Professor of Mechanical Engineering, University of Wisconsin-Madison
2018 – present – Affiliate Professor of Educational Psychology, University of Wisconsin-Madison
2018 – present – Member and Manager, Gleicher Consulting LLC
2013-2014 – Visiting Researcher, INRIA Rhone-Alpes, Montbonnot (Grenoble), France
2004 – 2009 – Associate Professor, Dept. of Computer Sci., University of Wisconsin-Madison.
1998 - 2004 – Assistant Professor, Dept. of Computer Sciences, University of Wisconsin-Madison.
1997 - 1998 – Research Scientist, Vision Technology Center, Autodesk, Inc, Mountain View, CA
1994 - 1997 – Research Scientist, Apple Research Laboratories, Apple Computer, Cupertino, CA.

Education

Ph. D. in Computer Science, Carnegie Mellon University, December 1994.
    Thesis: *A Differential Approach to Graphical Interaction*.
    Advisor: Andrew Witkin., Committee: Brad Myers, Paul Heckbert, Robert Sproull (Sun Labs)
M.S. in Computer Science, Carnegie Mellon University, May 1991.
B.S.E. in Electrical Engineering and Computer Science, Duke University, May 1988.

Honors and Awards

Vilas Associate 2021-2023 (University level award for research)
Best paper honorable mention, Human Robot Interaction (HRI) 2020
Best paper award, Human Robot Interaction (HRI) 2018
Best paper award (honorable mention), CHI 2017
Best poster Award (honorable mention), InfoVis 2016
Best paper Award (honorable mention) IEEE Ro-Man 2016
10 Year Impact Award, International Conference on Mobile and Ubiquitous Multimedia 2015
Best paper award (student paper), IS&T Color Imaging Conference 2014
Best paper award (honorable mention), Human-Robot Interaction (HRI) 2014
Honorable mention, best paper (2nd place), IEEE Visual Analytics (VAST) 2013
Best poster award, IEEE Scientific Visualization 2013
Best paper award (tied), Intelligent Virtual Agents conference 2013
Honorable mention, best paper nominee, IEEE Virtual Reality 2013
ACM Distinguished Scientist, 2011
Best paper award nominee (best in track selection) ACM Multimedia 2007
Best paper award (2nd place) Eurographics 2006
Exemplary paper at 2003 ACM Symposium on Interactive 3D Graphics
NSF Career Award (2000-2004)
Schlumberger Graduate Fellowship (1991-1994)

Publications

Co-Authors noted as (s) for student under my direction, (p) for post-doctoral associate under my direction, (o) for students or post-docs under the direction of others, and (a) for my thesis Advisor.

Journal Publications

Note: recent SIGGRAPH conference proceedings are published as an issue of *ACM Transactions on Graphics*, recent Eurographics and EuroVis conference proceedings are published as an issue of *Computer Graphics Forum*. Recent IEEE Visualization, Information Visualization, and Virtual Reality conference proceedings are published as issues of *IEEE Transactions on Visualization and Computer Graphics*. Acceptance rates provided where known.

Carter Sifferman[s], Dev Mehrotra[s], Mohit Gupta, and Michael Gleicher. 2022. Geometric Calibration of Single-Pixel Distance Sensors. *IEEE Robotics and Automation Letters* 7, 3 (July 2022), 6598–6605. DOI:https://doi.org/10.1109/LRA.2022.3176453

Michael Gleicher, Xinyi Yu[s], and Yiheng Chen[s]. Trinary tools for continuously valued binary classifiers. *Visual Informatics*, preprint ahead of publication (April 2022). DOI: https://doi.org/10.1016/j.visinf.2022.04.002

Bailey Ramesh[o], Anna Konstant[o], Pragathi Praveena[s], Emmanuel Senft[p], Michael Gleicher, Bilge Mutlu, Michael Zinn, and Robert G. Radwin. 2022. Manually Acquiring Targets From Multiple Viewpoints Using Video Feedback. *Hum Factors* (May 2022), 00187208221093829. DOI:https://doi.org/10.1177/00187208221093829

Constantinos Chamzas[o], Carlos Quintero-Peña[o], Zachary Kingston[o], Andreas Orthey[o], Daniel Rakita[s], Michael Gleicher, Marc Toussaint, and Lydia E. Kavraki. 2022. MotionBenchMaker: A Tool to Generate and Benchmark Motion Planning Datasets. *IEEE Robotics and Automation Letters* 7, 2 (April 2022), 882–889. DOI:https://doi.org/10.1109/LRA.2021.3133603

Emmanuel Senft[p], Michael Hagenow[s], Kevin Welsh[s], Robert Radwin, Michael Zinn, Michael Gleicher, and Bilge Mutlu. 2021. Task-Level Authoring for Remote Robot Teleoperation. *Frontiers in Robotics and AI* 8, (2021), 302. DOI:https://doi.org/10.3389/frobt.2021.707149

Prajna Bhat[s], Emmanuel Senft[p], Michael Zinn, Michael Gleicher, Bilge Mutlu, Rebecca Cook, and Robert G. Radwin. 2021. Assessing limited visibility feedback for overhead manufacturing assembly tasks. *Applied Ergonomics* 97, (November 2021), 103531. DOI:https://doi.org/10.1016/j.apergo.2021.103531

Michael Hagenow[s], Emmanuel Senft[p], Robert Radwin, Michael Gleicher, Bilge Mutlu, Michael Zinn. Informing Real-Time Corrections in Corrective Shared Autonomy Through Expert Demonstrations. *IEEE Robotics and Automation Letters*, 6 (4), October 2021. http://dx.doi.org/10.1109/LRA.2021.3094480

Prajna Bhat[o], Emmanuel Senft[p], Michael Zinn, Michael Gleicher, Bilge Mutlu, Robert Radwin, and Rebecca Cook. Assessing limited visibility feedback for overhead manufacturing assembly tasks. *Applied Ergonomics*, 97, November 2021. http://dx.doi.org/10.1016/j.apergo.2021.103531

Michael Hagenow[s], Emmanuel Senft[p], Robert Radwin, Michael Gleicher, Bilge Mutlu, Michael Zinn. Corrective shared autonomy for addressing task variability. *IEEE Robotics and Automation Letters*, 6 (3), July 2021. https://doi.org/10.1109/LRA.2021.3064500

Daniel Rakita[s], Bilge Mutlu, and Michael Gleicher. Single-query Path Planning Using Sample-efficient Probability Informed Trees. *IEEE Robotics and Automation Letters*, 6 (3), July 2021. https://doi.org/10.1109/LRA.2021.3068682

Florian Heimerl[p], Christoph Kralj[o], Torsten Moller, and Michael Gleicher. embComp: Visual Interactive Comparison of Vector Embeddings. I*EEE Transactions on Visualization and Computer Graphics*, 2021 (preprint ahead of publication). 10.1109/TVCG.2020.3045918

Matthew Bernstein[o], Zhongie Ma[s], Michael Gleicher and Colin Dewey. 2021. CellO: Comprehensive and hierarchical cell type classification of human cells with the Cell Ontology. *iScience*. https://doi.org/10.1016/j.isci.2020.101913

Dylan Cashman[o], Shenyu Xu[o], Subhajit Das[o], Florian Heimerl[p], Cong Liu[o], Shah Rukh Humayoun[o], Alex Endert, Michael Gleicher, and Remco Chang. 2020. CAVA: A Visual Analytics System for Exploratory Columnar Data Augmentation Using Knowledge Graphs. *IEEE Transactions on Visualization and Computer Graphics,* 27, 2 (February 2021), Proceedings IEEE VAST 2020. (acceptance rate 52/210) https://doi.org/10.1109/TVCG.2020.3030443

Daniel Rakita[s], Bilge Mutlu, and Michael Gleicher. An analysis of RelaxedIK: an optimization-based framework for generating accurate and feasible robot arm motions. Autonomous Robots 44, 1341-1358 (August, 2020). DOI: https://doi.org/10.1007/s10514-020-09918-9.

Subhajit Das[o], Shenyu Xu[o], Michael Gleicher, Remco Chang, and Alex Endert. 2020. QUESTO: Interactive Construction of Objective Functions for Classification Tasks. *Computer Graphics Forum* 39, 3 (June 2020), 153–165. Proceedings EuroVis 2020. (acceptance rate 48/168) DOI:https://doi.org/10.1111/cgf.13970

Michael Gleicher, Aditya Barve[s], Xinyi Yu[s], and Florian Heimerl. 2020. Boxer: Interactive Comparison of Classifier Results. *Computer Graphics Forum* 39, 3 (June 2020), 185–199. Proceedings EuroVis 2020. (acceptance rate 48/168) DOI:https://doi.org/10.1111/cgf.13972

Daniel Rakita[s], Bilge Mutlu, Michael Gleicher, and Laura M. Hiatt. 2019. Shared control–based bimanual robot manipulation. *Science Robotics* 4, 30 (May 2019). https://doi.org/10.1126/scirobotics.aaw0955

Dylan Cashman[o], Shah Rukh Humayoun[o], Florian Heimerl[p], Kendall Park[s], Subhajit Das[o], John Thompson, Bahador Saket, Abigail Mosca, John Stasko, Alex Endert, Michael Gleicher, and Remco Chang. 2019. A User-based Visual Analytics Workflow for Exploratory Model Analysis. *Computer Graphics Forum* 38, 3 (June 2019), 185–199. https://doi.org/10.1111/cgf.13681

Bodden, C. [s], Rakita, D. [s], Mutlu, B., & Gleicher, M. (2018). A flexible optimization-based method for synthesizing intent-expressive robot arm motion. *The International Journal of Robotics Research*, 37 (11), 2018. http://doi.org/10.1177/0278364918792295

Florian Heimerl[p] and Michael Gleicher. Interactive Analysis of Word Vector Embeddings. *Computer Graphics Forum*, 37 (3), June 2018, Proceedings EuroVis 2018. (acceptance rate 47/160)

Alper Sarikaya[s], Danielle Szafir, and Michael Gleicher. Design Factors for Summary Visualization in Visual Analytics. *Computer Graphics Forum*, 37 (3), June 2018, Proceedings EuroVis 2018. (acceptance rate 47/160) https://doi.org/10.1111/cgf.13408

Guru Subramani[s], Michael Gleicher and Michael Zinn. Recognizing Geometric Constraints in Human Demonstrations Using Force and Position Signals. IEEE Robotics and Automation Letters, 3(2), Jan 2018. (ICRA 2018 conference presentation) Doi: 10.1109/LRA.2018.2795648

Michael Gleicher. Considerations for Visualizing Comparisons. *IEEE Transactions on Visualization and Computer Graphics*, 24 (1) 2018. Proceedings IEEE InfoVis 2017. (acceptance rate 40/170).

Alper Sarikaya[s] and Michael Gleicher. Scatterplots: Tasks, Data, and Designs. *IEEE Transactions on Visualization and Computer Graphics*, 24 (1) 2018. Proceedings IEEE InfoVis 2017. (acceptance rate 40/170).

Eric Alexander[s], Chih-Ching Chang[s], Mariana Shimabukuro[o], Steve Franconeri, Christopher Collins, Michael Gleicher. Perceptual Biases in Font Size as a Data Encoding. *IEEE Transactions on Visualization and Computer Graphics*, Oct. 2017 doi: 10.1109/TVCG.2017.2723397.

Yafeng Lu[o], Garcia, R. [o], Hansen, B. [o], Gleicher, M., & Maciejewski, R. (2017). The State-of-the-Art in Predictive Visual Analytics. *Computer Graphics Forum2*, *36*(3). June, 2017.

Christine Nothelfer[o], Michael Gleicher, & Steven Franconeri. Redundant Encoding Strengthens Segmentation and Grouping in Visual Displays of Data. Journal of Experimental Psychology: Human Perception and Performance, April 2017, doi: 10.1037/xhp0000314.

Moneish Kumar[o], Vineet Gandhi, Remi Ronfard, and Michael Gleicher. (2017). Zooming On All Actors: Automatic Focus+Context Split Screen Video Generation. *Computer Graphics Forum*, *36*(2), 455–465. Proceedings Eurographics 2017, April 2017. (acceptance rate 26%)

Pejsa, T., Rakita, D., Mutlu, B., & Gleicher, M. (2016). Authoring directed gaze for full-body motion capture. *ACM Transactions on Graphics*, *35*(6), 1–11. Proceedings SIGGRAPH ASIA 2016, December 2016 (acceptance rate 89/300).

Danielle Albers Szafir[s], Alper Sarikaya[s], and Michael Gleicher. Lightness Constancy in Surface Visualization. *IEEE Transactions on Visualization and Computer Graphics*, 22 (9), Sept. 2016.

Gleicher, M. (2016). A Framework for Considering Comprehensibility in Modeling. *Big Data*, *4*(2), June 2016, 75–88. http://doi.org/10.1089/big.2016.0007

Danielle Albers Szafir, Deidre Stuffer[s], Yusef Sohail[s] and Michael Gleicher. TextDNA: Visualizing Word Usage with Configurable Colorfields. Computer Graphics Forum, June 2016. Proceedings EuroVis 2016 (acceptance rate 50/183).

Alper Sarikaya[s], Michael Correll[s], Jorge Dinis, David O'Connor, and Michael Gleicher. Visualizing Co-occurrence of Events in Populations of Viral Genome Sequences. Computer Graphics Forum, June 2016. Proceedings EuroVis 2016 (acceptance rate 50/183).

Danielle Albers Szafir[s], Steve Harosz[o], Michael Gleicher and Steven Franconeri. Four Types of Ensemble Encoding in Data Visualizations. *Journal of Vision*, 16 (5), March 2016, doi: 10.1167/16.5.11.

Eric Alexander[s] and Michael Gleicher. Task-Driven Comparison of Topic Models. *IEEE Transactions on Visualization and Computer Graphics*, 22 (1) 2016. Proceedings IEEE VAST 2015. (acceptance rate 31/149) doi:10.1109/TVCG.2015.2467618

Sean Andrist[s], Wesley Collier[o], Michael Gleicher, Bilge Mutlu, and David Shaffer. Look Together: Analyzing Gaze Coordination with Epistemic Network Analysis. *Frontiers in Psychology* 6 (July 21, 2015). doi:10.3389/fpsyg.2015.01016.

Michael Correll[s], Adam L Bailey[o], Alper Sarikaya[s], David H O'Connor, and Michael Gleicher. "LayerCake: A Tool for the Visual Comparison of Viral Deep Sequencing Data." Bioinformatics (Oxford, England) (July 7, 2015): doi:10.1093/bioinformatics/btv407.

Martin Guay, Remi Ronfard, Michael Gleicher, Marie-Paule Cani. Space-time Sketching of Character Animations. ACM Transactions on Graphics 34(4). Proceedings SIGGRAPH 2015.

Kerstin Ruhland[o], Christopher Peters, Sean Andrist[s], Jeremy Badler, Norman Badler, Michael Gleicher, Bilge Mutlu, Rachel McDonnell. A Review of Eye Gaze in Virtual Agents, Social Robotics and HCI: Behaviour Generation, User Interaction and Perception. *Computer Graphics Forum* 34 (6), September 2015. (DOI: 10.1111/cgf.12603)

Tomislav Pejsa[s], Sean Andrist [s], Bilge Mutlu and Michael Gleicher. Gaze and Attention Management for Embodied Conversational Agents. *ACM Transactions on Interactive Intelligent Systems (TiiS),* 5(1), March 2015.

Cedric Zanni[o], Michael Gleicher, and Marie-Paule Cani. N-ary implicit blends with topology control. *Computers and Graphics* 46 (10), 1-13, February 2015. Proceedings Shape Modeling International (acceptance rate 33/93).

Michael Correll[s] and Michael Gleicher. Error Bars Considered Harmful: Exploring Alternate Encodings for Mean and Error. *IEEE Transactions on Visualization and Computer Graphics*, 20(12), 2014. Proceedings IEEE Information Visualization 2014. (acceptance rate 45/196)

Karen Chen[o], Ryan Kimmel[o], Aaron Bartholomew[o], Kevin Ponto, Michael Gleicher, Robert Radwin. Manually Locating Physical and Virtual Reality Objects. *Human Factors: The Journal of Human Factors and Ergonomics Society*, Volume 56 (6), 1163—1176, Sept 2014.

Ragothaman Yennamalli, Rajarathinam Arangarasan, Aaron Bryden, Michael Gleicher, George Phillips Jr. Using a commodity high-definition television for collaborative structural biology. *Journal of Applied Crystallography* 47(3), 1153-1157, May 2014.

Alper Sarikaya[s], Danielle Albers[s], Julie C. Mitchell, Michael Gleicher. Visualizing Validation of Protein Surface Classifiers. *Computer Graphics Forum* 33(3), June 2014. Proceedings EuroVis 2014. (acceptance rate 42/161).

Danielle Albers[s], Michael Correll[s], Michael Gleicher, Steven Franconeri. Ensemble Processing of Color and Shape: Beyond Mean Judgments. Journal of Vision 14 (9), May 2014.

Adam L. Bailey[o], Michael Lauck[o], Andrea Weiler, Samuel D. Sibley, Jorge M. Dinis, Zachary Bergman, Chase W. Nelson, Michael Correll[s], Michael Gleicher, David Hyeroba, Alex Tumukunde, Geoffrey Weny, Colin Chapman, Jens H. Kuhn, Austin L. Hughes, Thomas C. Friedrich, Tony L. Goldberg, David H. O'Connor. High Genetic Diversity and Adaptive Potential of Two Simian Hemorrhagic Fever Viruses in a Wild Primate Population. *PLoS One*. 2014.

Michael Gleicher. Explainers: Expert Explorations with Crafted Projections. *IEEE Transactions on Visualization and Computer Graphics*, 19 (12) 2013. Proceedings IEEE VAST 2013. (acceptance rate 33/125) **Honorable Mention Award (2nd place best paper)**

Michael Gleicher, Michael Correll[s], Christine Nothelfer[o], and Steven Franconeri. Perception of Average Value in Multiclass Scatterplots. *IEEE Transactions on Visualization and Computer Graphics*, 2013. Proceedings IEEE Information Visualization 2013. (acceptance rate 38/151)

Adrian Mayorga[s] and Michael Gleicher. Splatterplots: Overcoming Overdraw in Scatterplots. *IEEE Transactions on Visualization and Computer Graphics*, 19 (9) 1526-1538, 2013.

Tomislav Pejsa[s], Bilge Mutlu and Michael Gleicher. Stylized and Performative Gaze for Character Animation. *Computer Graphics Forum* 32(2), May 2013. Proceedings Eurographics 2013 (acceptance rate 52/205 = 26%)

Kevin Ponto[p], Michael Gleicher, Robert Radwin, and Hyun Joon Shin. Perceptual Calibration for Immerive Display Environments. . *IEEE Transactions on Visualization and Computer Graphics*, 19(4), 691-700, April 2013. Proceedings IEEE Virtual Reality. (acceptance rate 21/97 = 22%). **Best paper candidate**.

Kevin Ponto[p], Joe Kohlmann[s], and Michael Gleicher. Effective Replays and Summarization of Virtual Experiences. *IEEE Transactions on Visualization and Computer Graphics*, 18(4), April 2012. Proceedings IEEE Virtual Reality. (acceptance rate 44/172 = 16%)

Gregory Cipriano[s], George N. Phillips, Jr. and Michael Gleicher. Local functional descriptors for surface comparison based binding prediction. *BMC Bioinformatics*, 13:314, November 2012.

Yuzhen Niu[s], Feng Liu[s], Xueqing Li and Michael Gleicher. Image resizing via non-homogeneous warping. *Multimedia Tools and Applications*. 56(3), February 2012, 485-508.

Shelby O'Connor, Ericka Becker, Jason Weinfurter, Emily N. Chin, Melisa L. Budde, Emma Gostick, Michael Correll[s], Michael Gleicher, Austin Hughes, David Price, Thomas Friedrich, and David O'Connor. Conditional CD8+ T cell escape during acute simian immunodeficiency virus infection. *Journal of Virology*. 86(1), January, 2012, 605-609. PMID: 22013056.

Aaron Bryden[s], George Phillips, Jr., and Michael Gleicher. Automated Illustration of Molecular Flexibility. *IEEE Transactions of Visualization and Computer Graphics*. 18 (1), January 2012, 132-145. PMID: 21149884.

Michael Gleicher, Danielle Albers[s], Rick Walker[o], Ilir Jusufi[o], Charles Hansen and Jonathan Roberts. Visual Comparison for Information Visualization. Information Visualization, 10(4) October, 2011, 289-309.

Danielle Albers[s], Colin Dewey, and Michael Gleicher. Sequence Surveyor: Leveraging Overview for Scalable Genomic Alignment Visualization. *IEEE Transactions on Visualization and Computer Graphics,* 17(5), October 2011. Proceedings IEEE Information Visualization (acceptance rate 44/172).

Michael Correll[s], Michael Witmore, and Michael Gleicher. Exploring Collections of Tagged Text for Literary Scholarship. *Computer Graphics Forum.* 30(3), 2011, 731-740. Proceedings EuroVis 2011. (acceptance rate 54/190)

Feng Liu[s], Michael Gleicher, Jue Wang, Hailin Jin, and Aseem Agarwala. Subspace Video Stabilization. *ACM Transactions on Graphics*. 30(1), Janurary 2011, 4:1-4:10.

Greg Cipriano[s], Gary Wesenberg, Tom Grim, George N. Phillips Jr. and Michael Gleicher. GRAPE: GRaphical Abstracted Protein Explorer. *Nucleic Acids Research, Web Server Issue.* May 2010. **Chosen as a feature article (top 5%).** PMCID: 2896102.

Gregory Cipriano[s], George N. Phillips, Jr. and Michael Gleicher. Multiscale Surface Descriptors. *IEEE Transactions on Visualization and Computer Graphics*. 15(5), 2009. Proceedings IEEE Visualization 2009. (acceptance rate 54/202) PMCID: 2873089.

Yanwen Guo, Feng Liu[s], Jian Shi, Zhihua Zhou and Michael Gleicher. Image Retargeting Using Mesh Parametrization, *IEEE Transactions on Multimedia,* 11(5), August 2009, 856-867.

Feng Liu[s], Michael Gleicher, Hailin Jin and Aseem Agarwala, Content-Preserving Warps for 3D Video Stabilization, **SIGGRAPH '09**, *ACM Transactions on Graphics*, 28(3) August 2009. (acceptance rate 78/439)

Feng Liu[s], Jinjun Wang, Shenghuo Zhu, Michael Gleicher and Yihong Gong. Visual-Quality Optimizing Super Resolution. *Computer Graphics Forum.* 28(1) 2009, 127-140.

Gregory Cipriano[s] and Michael Gleicher. Text Scaffolds for Effective Surface Labeling. *IEEE Transactions on Visualization and Computer Graphics*. 14(5), 2008. Proceedings IEEE Visualization 2008. (acceptance rate 50/196). PMCID: 18989025.

Michael Gleicher and Feng Liu[s]. Re-Cinematography: Improving the camerawork of casual video. *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*. 5(1) , 2008

Gregory Cipriano[s] and Michael Gleicher. Molecular Surface Abstraction. *IEEE Transactions on Visualization and Computer Graphics*. 13(5), 2007. Proceedings IEEE Visualization 2007. (acceptance rate 56/216).

Frank Pollick, Phil McAleer, Michael Gleicher, Joris Vangeneugden and Rufin Vogels. Human recognition of action blends. *Journal of Vision*. 7(9), 2007.

Rachel Heck[s], Michael Wallick[s], and Michael Gleicher. Virtual Videography. *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*, 3 (1) 2007.

Rachel Heck[s], Lucas Kovar[p], and Michael Gleicher. Splicing Upper-Body Actions with Locomotion. *Computer Graphics Forum,* 25 (3), 2006. Eurographics '06. (acceptance rate 46/246). **2nd place Best Paper Award**.

Mankyu Sung[s], Michael Gleicher, and Stephen Chenney. Scalable Behaviors for Crowd Simulation. Computer Graphics Forum, 23 (3) 2004. Proceedings of Eurographics 2004. (acceptance rate 44/243)

Lucas Kovar[s] and Michael Gleicher. Automated Extraction and Parameterization of Motions in Large Data Sets. **SIGGRAPH '04**. *ACM Transactions on Graphics*, August 2004. (aceptance rate 83/478)

Alex Mohr[s] and Michael Gleicher. Building Efficient, Accurate Character Skins from Examples. **SIGGRAPH '03**. *ACM Transactions on Graphics*, July 2003. (aceptance rate 81/424)

Michael Gleicher, Hyun-Joon Shin[p], Lucas Kovar[s], and Andrew Jepsen[s]. Snap-Together Motion. **SIGGRAPH '03**. *ACM Transactions on Graphics*, July 2003. (Reprise selection from Symposium on Interactive 3D Graphics, 3 papers chosen from 27/102 at conference)

Lucas Kovar[s], Michael Gleicher, and Frederick Pighin[o]. Motion Graphs. **SIGGRAPH '02**. *ACM Transactions on Graphics*, July 2002. (acceptance rate 67/358)

Michael Gleicher. Comparing Constraint-based Methods for Motion Editing. *Graphical Models* 63, 107-134 2001.

Hyun-Joon Shin[o], Jehee Lee[o], Michael Gleicher, and Sung-Yong Shin. Computer Puppetry: An Importance-based approach. *ACM Transactions on Graphics*. April 2001.

Michael Gleicher and Peter Litwinowicz. Constraint-based Motion Adaptation. *The Journal of Visualization and Computer Animation,* 9(3): 66-94, 1998.

Michael Gleicher and Andrew Witkin[a]. Drawing With Constraints. *The Visual Computer,* 11(1):39-51, 1994.

Refereed Conference Publications

Pragathi Praveena[s], Luis Molina[s], Yeping Wang[s], Emmanuel Senft[p], Bilge Mutlu, and Michael Gleicher. 2020. Understanding Control Frames in Multi-Camera Robot Telemanipulation. In Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction (HRI '22), March 2022.

Bolun Zhang[s], Michael Hagenow[s], Michael Gleicher, and Michael Zinn. Assessing the Perceived Realism of Kinesthetic Haptic Renderings Under Parameter Variations, IEEE Haptics Symposium, 2022.

Emmanuel Senft[p], Michael Hagenow[s], Kevin Welsh[s], Robert Radwin, Michael Zinn, Michael Gleicher, and Bilge Mutlu. 2021. Situated Live Programming for Human-Robot Collaboration. *Proceedings UIST '21*, (2021), 302. DOI: 10.1145/3472749.3474773

Daniel Rakita[s], Bilge Mutlu, Michael Gleicher. Strobe: An Acceleration Meta-algorithm for Optimizing Robot Paths using Concurrent Interleaved Sub-Epoch Pods. *2021 International Conference on Robotics and Automation (ICRA)*, May 2021.

Daniel Rakita[s], Haochen Shi[s], Bilge Mutlu, Michael Gleicher. CollisionIK: A Per-Instant Pose Optimization Method for Generating Robot Motions with Environment Collision Avoidance. *2021 International Conference on Robotics and Automation (ICRA)*, May 2021.

Michael Hagenow[(s)], Bolun Zhang[(s)], Bilge Mutlu, Michael Gleicher, Michael Zinn. Recognizing Orientation Slip in Human Demonstrations. *2021 International Conference on Robotics and Automation (ICRA)*, May 2021.

Daniel Rakita[(s)], Bilge Mutlu, Michael Gleicher. 2020. Effects of Onset Latency and Robot Speed Delays on Mimicry-Control Teleoperation. *2020 ACM/IEEE International Conference on Human-Robot Interaction (HRI'20)*, March, 2020. (acceptance rate 67/279)

Pragathi Praveena[(s)], Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. 2020. Supporting Perception of Weight through Motion-induced Sensory Conflicts in Robot Teleoperation. In Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction (HRI '20), March 2020. (acceptance rate 67/279) **(Best Paper Honorable Mention)**

Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. Remote Telemanipulation with Adapting Viewpoints in Visually Complex Environments. *Robotics Systems and Science (RSS)*, June 2019. (acceptance rate 85/274).

Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. Stampede: A Discrete-Optimization Method for Solving Pathwise-Inverse Kinematics. *2019 International Conference on Robotics and Automation (ICRA)*, May 2019.

Pragathi Praveena[(s)], Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. User-Guided Offline Synthesis of Robot Arm Motion from 6-DoF Paths. *2019 International Conference on Robotics and Automation (ICRA)*, May 2019.

Pragathi Praveena[(s)], Guru Subramani[(s)], Bilge Mutlu and Michael Gleicher. Characterizing Input Methods for Human-to-robot Demonstrations. *ACM/IEEE International Conference on Human-Robot Interaction - HRI '19*, March 2019. (acceptance rate 49/201)

Guru Subramani[(s)], Michael Zinn, and Michael Gleicher. Inferring Geometric Constraints in Human Demonstrations. In Conference on Robot Learning, October 2018. (acceptance rate 75/237)

Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. RelaxedIK: Real-time Synthesis of Accurate and Feasible Robot Arm Motion. *Robotics Systems and Science (RSS)*, June 2018. (acceptance rate 71/223)

Daniel Rakita[(s)], Bilge Mutlu, and Michael Gleicher. An Autonomous Dynamic Camera Method for Effective Remote Teleoperation. *ACM/IEEE International Conference on Human-Robot Interaction - HRI '18*, March 2018. **(best paper award award)** (acceptance rate 49/206)

Daniel Rakita[(s)], Bilge Mutlu, Michael Gleicher, and Laura Hiatt. Shared Dynamic Curves: A Shared-Control Telemanipulation Method for Motor Task Training. *ACM/IEEE International Conference on Human-Robot Interaction - HRI '18*, March 2018. (acceptance rate 49/206)

Guru Subramani[(s)], Daniel Rakita[(s)], Hongyi Wang[(s)], Jordan Black[(s)], Michael Zinn, Michael Gleicher. Recognizing Actions during Tactile Manipulations through Force Sensing. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, September 2017.

Tomislav Pejsa[(s)], Michael Gleicher, Bilge Mutlu. Who, Me? How Virtual Agents Can Shape Conversational Footing in Virtual Reality. *Intelligent Virtual Agents*, August 2017. (acceptance rate 13/69)

Oliver Liu[(s)], Daniel Rakita[(s)], Bilge Mutlu, Michael Gleicher. Understanding Human-Robot Interaction in Virtual Reality. In *Proceedings IEEE Symposium on Robot and Human Interactive Communication (RO-MAN)*, August 2017.

Andrist, S. [s], Gleicher, M., & Mutlu, B. (2017). Looking Coordinated: Bidirectional Gaze Mechanisms for Collaborative Interaction with Virtual Characters. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17* (pp. 2571–2582). May, 2017. (acceptance rate 25%). **(honorable mention award)**

Rakita, D., Mutlu, B., & Gleicher, M. A Motion Retargeting Method for Effective Mimicry-based Teleoperation of Robot Arms. In *Proceedings of the 2017 ACM/IEEE International Conference on Human-Robot Interaction - HRI '17*, March 2017. (acceptance rate 50/211)

Michael Correll[s] and Michael Gleicher. The Semantics of Sketch: A Visual Query System for Time Series Data, *Proceedings IEEE VAST 2016*, October 2016 (acceptance rate 50/157)

Eric Alexander[s], Deidre Stuffer[s], and Michael Gleicher. Addressing Variation at Scale in Historical Document Collections. Proceedings of the 2016 Workshop on Visualization for the Digital Humanities, October, 2016.

Eric Alexander[s], Chih-Ching Chang[s], Mariana Shimabukuro[o], Steve Franconeri, Christopher Collins, and Michael Gleicher. IEEE InfoVis Poster Proceedings, October 2016. **(best poster honorable mention)**

Christine Nothelfer[o], Michael Gleicher, and Steve Franconeri. Redundant Coding Can Speed Up Segmentation in Multiclass Displays. IEEE InfoVis Poster Proceedings, October 2016.

Alper Sarikaya[s] and Michael Gleicher. Tasks to Tease Apart Scatterplot Design Decisions. IEEE InfoVis Poster Proceedings, October 2016.

Christopher Bodden[s], Daniel Rakita[s], Bilge Mutlu and Michael Gleicher. Evaluating Intent-Expressive Arm Motion, International Symposium on Robot and Human Interactive Communication (IEEE ROMAN 2016), August 2016. (acceptance rate 44%) **(best paper honorable mention)**

Daniel Rakita[s], Bilge Mutlu and Michael Gleicher. Motion Synopsis for Robot Arm Trajectories, International Symposium on Robot and Human Interactive Communication (IEEE ROMAN 2016), August 2016.

Eric Alexander[s] and Michael Gleicher. Assessing Topic Representations for Gist-Forming. *Advanced Visual Interfaces (AVI)*, June 2016. (acceptance rate 26/95).

Martin Guay[s], Rémi Ronfard, Michael Gleicher, Marie-Paule Cani. Adding dynamics to sketch-based character animations. *Sketch-Based Interfaces and Modeling, (SBIM),* June 2015.

Eric Alexander[s], Joseph Kohlman, Robin Valenza, Michael Witmore, and Michael Gleicher. Serendip: Topic Model-Driven Visual Exploration of Text Corpora. *Proceedings IEEE VAST 2014*. (acceptance rate 54/146)

Michael Correll[s], Eric Alexander[s], Danielle Albers Szafir, Alper Sarikaya, and Michael Gleicher. Navigating Reductionism and Holism in Evaluation. *BELIV '14 Proceedings of the Fifth Workshop on Beyond Time and Errors: Novel Evaluation Methods for Visualization*, 23—26, November 2014.

Michael Gleicher. Position Paper: Towards Comprehensible Predictive Modeling. *IEEE Workshop on Visualization for Predictive Analytics*, November 2014.

Vineet Gandhi[o], Remi Ronfard and Michael Gleicher. Multi-Clip Video Editing from a Single Viewpoint. *European Conference on Visual Media Production (CVMP) 2014*. November, 2014.

Danielle Albers Szafir[s], Maureen Stone, and Michael Gleicher. "Adapting Color Difference for Design." IS&T 22nd Color and Imaging Conference, 2014. **(best student paper award)**

Christophe Lino[o], Remi Ronfard, Quentin Galvane[o], Michael Gleicher. How Do We Evaluate the Quality of Computational Editing Systems? *AAAI Workshop on Intelligent Cinematography and Editing*, July, 2014.

Danielle Albers[s], Michael Correll[s], and Michael Gleicher. Task-Driven Evaluation of Aggregation in Time Series Visualization. *Proceedings ACM CHI*. May, 2014. (acceptance rate 22.8%)

Kerstin Ruhland[o], Sean Andrist[s], Jeremy Badler, Christopher Peters, Norman Badler, Michael Gleicher, Bilge Mutlu, Rachel McDonnell. Look me in the eyes: A survey of eye and gaze animation for virtual agents and artificial systems. *Eurographics State-of-the-Art Reports* (EG '14 STARs), April 2014.

Sean Andrist[s], Xiang Zhi Tan[o], Michael Gleicher, and Bilge Mutlu. Conversational Gaze Aversion for Humanlike Robots. Proceedings of the 9th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2014). March 2014. (acceptance rate 24%) **(best paper runner-up)**

Sean Andrist[s], Bilge Mutlu, Michael Gleicher. Conversational Gaze Aversion for Virtual Agents. Proceedings *13th International Conference on Intelligent Virtual Agents*, Edinburgh, UK, August 2013. **(highly commended paper award winner)** (acceptance rate 18/61)

Michael Correll[s], Eric Alexander[s], and Michael Gleicher. Quantity Estimation in Tagged Text. *Proceedings ACM CHI*. May, 2013. (acceptance rate 20%)

Sean Andrist[s], Tomislav Pejsa[s], Bilge Mutlu, Michael Gleicher. A Head-Eye Coordination Model for Animating Gaze Shifts of Virtual Characters. In *Proceedings of the 14th International Conference on Multimodal Interaction (ICMI 2012), 4th Workshop on Eye Gaze in Intelligent Human Machine Interaction (Gaze-In'12)*. Santa Monica, CA.

Kevin Ponto[p], Hyun Joon Shin, Joe Kohlmann[s], Michael Gleicher, Online Real-Time Presentation of Virtual Experiences for External Viewers, *Proceedings of the 18th ACM Symposium on Virtual Reality Software and Technology*, December 10-12, 2012, Toronto, Canada. (acceptance rate 28.5%)

Michael Gleicher. Why ask why?: considering motivation in visualization evaluation. BELIV '12: Proceedings of the 2012 BELIV Workshop: Beyond Time and Errors - Novel Evaluation Methods for Visualization.

Michael Correll[s] and Michael Gleicher. What Shakespeare Taught Us About Text Visualization. *2012 Interactive Visual Text Analytics Workshop*.

Michael Correll[s], Danielle Albers[s], Steve Franconeri and Michael Gleicher. Comparing Averages in Time Series Data. *Proceedings ACM CHI*. May, 2012. (acceptance rate 23%)

Sean Andrist[s], Tomislav Pejsa[s], Bilge Mutlu, Michael Gleicher. Designing Effective Gaze Mechanisms for Virtual Agents. *Proceedings ACM CHI*. May, 2012. (acceptance rate 23%)

Michael Correll[s], Subhadip Ghosh[s], David O'Connor, and Michael Gleicher. Visualizing Virus Population Variability From Next Generation Sequencing Data. *IEEE Symposium on Biological Data Visualization*. October, 2011. (acceptance rate 20/54)

Aaron Bryden[s], George Phillips Jr., Yoram Griguer[s], Jordan Moxon[s], Michael Gleicher. Improving Collaborative Visualization of Structural Biology. *7th International Symposium on Visual Computing*, September 2011.

Yuzhen Niu[s], Feng Liu[s], Xueqing Li, Huiyun Bao[o], and Michael Gleicher. Detection of Image Stretching. *Applied Perception in Graphics and Visualization (APGV)*. July 2010.

Yuzhen Niu[s], Feng Liu[s], Xueqing Li, and Michael Gleicher. Warp Propagation for Video Resizing. *IEEE CVPR 2010*, San Francisco, CA, USA, June 2010. (acceptance rate 27%)

Feng Liu[s], Yuzhen Niu[s] and Michael Gleicher, Using Web Photos for Measuring Video Frame Interestingness. International Joint Conference on Artificial Intelligence (IJCAI), July 2009. (acceptance rate 331/1290)

Feng Liu[s] and Michael Gleicher, Learning color and locality cues for moving object detection and segmentation. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2009. (acceptance rate 383/1464)

Feng Liu[s] and Michael Gleicher. Texture-Consistent Shadow Removal. *Proc. ECCV 2008 (European Conf. on Computer Vision)*. October, 2008.(acceptance rate 203/871)

Feng Liu[s] and Michael Gleicher. Discovering Panoramas in Web Videos. *Proc. ACM Multimedia 2008*. September, 2008. (acceptance rate 15/86)

Feng Liu[s], Jinjun Wang, Shenghuo Zhu, Michael Gleicher and Yihong Gong. Noisy video super-resolution. *ACM Multimedia 2008*, Vancouver, Canada, October 2008. (short paper,acceptance rate 31/107)

Patrick Coleman[o], Jacobo Bibliowicz[o], Karan Singh, and Michael Gleicher. Staggered Poses: A Character Motion Representation for Detail–Preserving Editing of Pose and Coordinated Timing. *2008 Symposium on Computer Animation*. (acceptance rate 24/60)

Michael Gleicher and Feng Liu[s]. Re-Cinematography: Imrpoving the dynamics of casual video. Proc. ACM Multimedia 2007, September 2007. **Best in-track award, best paper in conference nominee**. (acceptance rate in track 18/90)

Aneesh[s] Karve and Michael Gleicher. Glyph-based Overviews of Large Datasets in Structural Bioinformatics. *Proc. 11th Intl. Conf. on Information Visualization (IV 2007)*, July 2007. (acceptance rate 54%)

Rachel Heck[s] and Michael Gleicher. Parameterized Motion Graphs. *2007 Symposium on Interactive 3D Graphics (SI3D)*. (acceptance rate 24/75)

Feng Liu[s] and Michael Gleicher. Video Retargeting: Automating Pan and Scan. *ACM Multimedia 2006*. (acceptance rate 16%)

Feng Liu[s] and Michael Gleicher. Region Enhanced Scale-Invariant Saliency Detection. Proceedings IEEE Conference on Multimedia and Expo (ICME 2006), July 2006. (acceptance rate 475/932)

Thomas Brunet [s], K. Evan Nowak[s], and Michael Gleicher. Integrating Dynamic Deformations into Interactive Volume Visualization. *Proceedings EuroVIS 2006, the Eurographics/IEEE Symposium on Visualization.* May, 2006. (acceptance rate 43/98)

Vidya Setlur[o], Saeko Takagi[o], Ramesh Raskar, Michael Gleicher, and Bruce Gooch. Automatic Image Retargeting. *International Conference on Mobile and Ubiquitous Multimedia (MUM) 2005*. Selected as one of the 3 best papers at conference. (acceptance rate 32%)

Feng Liu[s] and Michael Gleicher. Automatic Image Retargeting with FisheyeView Warping. *Proceedings of UIST 2005*. (acceptance rate 31/159)

Mankyu Sung[s], Lucas Kovar[p], and Michael Gleicher. Fast and accurate goal-directed motion synthesis for crowds. *2005 Symposium on Computer Animation*. (acceptance rate 35/100)

Michael Wallick[s], Rachel Heck[s], and Michael Gleicher. Chalkboard and Marker Regions. *Proceedings of Mirage 2005*. March 2005.

Hyun Joon Shin[p], Lucas Kovar[s], and Michael Gleicher. Physical Touchup of Human Motion. *Pacific Graphics 2003*. (acceptance rate 36/182)

Lucas Kovar[s] and Michael Gleicher. Flexible Automatic Motion Blending with Registration Curves. *2003 Symposium on Computer Animation*. (acceptance rate 23 long papers/100)

Yin Li[o], Michael Gleicher, Ying-Qing Xu, and Hyung-Yuen Shum.. Example-based Stylization of Motion Capture Data. *2003 Symposium on Computer Animation*. (acceptance rate 23 long papers/100)

Michael Gleicher, Hyun-Joon Shin[p], Lucas Kovar[s], and Andrew Jepsen[s]. Snap-Together Motion. *2003 Symposium on Interactive 3D Graphics*. (acceptance rate 27/102)

Alex Mohr[s], Lucas Tokheim[s], and Michael Gleicher. Direct Manipulation of Interactive Character Skins. *2003 Symposium on Interactive 3D Graphics*. (acceptance rate 27/102)

Lucas Kovar[s], Michael Gleicher and John Schreiner[s]. Footskate Cleanup for Motion Editing. *2002 Symposium on Computer Animation*. (acceptance rate 22/53)

Michael Gleicher, Rachel Heck[s], and Michael Wallick[s]. A Framework for Virtual Videography. *Smart Graphics '02*. (13 of 26 accepted, ours was one of only 3 long papers)

Michael Gleicher and Nicola Ferrier. Evaluating Video-Based Motion Capture. *Computer Animation '02*. (acceptance rate 20/46)

Alex Mohr[s] and Michael Gleicher. HijackGL: Reconstructing from Streams for Stylized Rendering. *Proceedings NPAR (Non-Protorealistic Animation and Rendering) '02*. (acceptance rate 18/40)

Lucas Kovar[s] and Michael Gleicher. Simplicial Modeling of Families of Drawings. *Proceedings UIST '01*. (acceptance rate 19%)

Michael Gleicher. Motion Path Editing. Proceedings of 2001 ACM Symposium on Interactive 3D Graphics.March, 2001. (acceptance rate 33/100)

Alex Mohr[s] and Michael Gleicher. Non-Invasive, Interactive, Stylized Rendering. *Proceedings of 2001 ACM Symposium on Interactive 3D Graphics.*March, 2001. (acceptance rate 33/100)

Michael Gleicher and James Masanz[s]. Towards Virtual Videography. *Proceedings of ACM MultiMedia* 2000, November 2000. (acceptance rate 36/108 for short papers)

Michael Gleicher. Retargetting Motion to New Characters. Proceedings of **SIGGRAPH '98**. *Computer Graphics Annual Conference Series,* July, 1998. (acceptance rate 45/303)

Michael Gleicher. Projective Registration with Difference Decomposition. 1997 *IEEE Conference on Computer Vision and Pattern Recognition.* June, 1997. (acceptance rate for oral presentations: 62/544)

Michael Gleicher. Motion Editing with Spacetime Constraints. *Proceedings of the 1997 Symposium on Interactive 3D Graphics.* April, 1997. (accepatance for long papers 15/ 85)

Michael Gleicher. Image Snapping. Proceedings of **SIGGRAPH '95**. *Computer Graphics Annual Conference Series,* August, 1995. (acceptance rate 56/257)

Michael Gleicher. A Graphics Toolkit Based on Differential Constraints*. Proceedings UIST '93*, November, 1993.

Michael Gleicher and Andrew Witkin[a]. Supporting Numerical Computations in Interactive Contexts. *Proceedings Graphics Interface '93,* pages 138-145, May 1993.

Michael Gleicher. Practical Issues in Graphical Constraints. Proceedings PPCP-93: Workshop on the Principles and Practice of Constraint Programming, Newport, RI, April, 1993. (acceptance rate 37/94)

Michael Gleicher and Andrew Witkin[a]. Through-the-Lens Camera Control. *Computer Graphics,* 26:2, pages 331-340, July 1992. Proceedings of **SIGGRAPH '92**. (acceptance rate 44/213)

Michael Gleicher and Michael Kass. An Interval Refinement Technique for Surface Intersection. *Proceedings Graphics Interface '92,* pages 242-249, May 1992.

Michael Gleicher. Integrating Constraints and Direct Manipulation. *Proceedings of the 1992 Symposium on Interactive 3D graphics,* pages 171-174, March, 1992. (acceptance rate 24/69)

William Welch, Michael Gleicher, and Andrew Witkin[a]. Manipulating Surfaces Differentially. *Proceedings Compugraphics '91,* September, 1991.

Michael Gleicher and Andrew Witkin[a]. Differential Manipulation. *Proceedings Graphics Interface '91,* pages 61-67, June, 1991.

Michael Gleicher and Andrew Witkin[a]. Snap Together Mathematics. In Edwin Blake and Peter Weisskirchen, editors, *Advances in Object Oriented Graphics 1.* Springer-Verlag, 1991.

Andrew Witkin[a], Michael Gleicher and William Welch. Interactive Dynamics. *Computer Graphics,* 24(2):11-21, March 1990. Proceedings 1990 Symposium on Interactive 3D Graphics. (acceptance rate 24/82)

Refereed Abstracts

Kushin Mukherjee[s], Timothy T. Rogers, Laurent Lessard, Michael Gleicher, and Karen Schloss. 2021. Mapping a low-dimensional space of color-concept associations. Journal of Vision 21, 9 (September 2021), 2788. https://doi.org/10.1167/jov.21.9.2788.

Bolun Zhang[s], Michael Hagenow[s], Bilge Mutlu, Michael Gleicher and Michael Zinn. Characterizing the Effects of Haptic Rendering Parameter Variations on Perceived Kinesthetic Rendering Accuracy. IEEE World Haptics (2021), Work in Progress Paper.

Kumar, M., Gandhi, V., Ronfard, R., & Gleicher, M. (2017). Zooming On All Actors: Automatic Focus+Context Split Screen Video Generation. In *Eurographics Workshop on Intelligent Cinematography and Editing*.

Michael Gleicher. What Shakespeare Taught Us About (Visual) Data Science. Visual Data Science Symposium, October, 2016.

Danielle Albers Szafir and Michael Gleicher. Visualization-Aware Color Design. EuroVis 2016 Poster Proceedings.

Michael Correll[s] and Michael Gleicher. Implicit Uncertainty Visualization: Aligning Perception and Statistics. Proceedings of the 2015 Workshop on Visualization for Decision Making Under Uncertainty, October 2015.

Alper Sarikaya[s] and Michael Gleicher. Using WebGL as an Interactive Visualization Medium: Our Experience Developing SplatterJs. Data Systems for Interactive Analysis Workshop, October 2015.

Rakita, D., Pejsa, T., Mutlu, B., & Gleicher, M. (2015). Inferring gaze shifts from captured body motion. In ACM SIGGRAPH 2015 Posters on - SIGGRAPH '15 (pp. 1–1). New York, New York, USA: ACM Press. http://doi.org/10.1145/2787626.2787663

Michael Gleicher. Towards Comprehensible Predictive Modeling. Visualization for Predictive Analytics Workshop, November 2014.

Michael Correll[s] and Michael Gleicher. Bad for Data, Good for the Brain: Knowledge-First Axioms For Visualization Design. *DECISIVe : Workshop on Dealing with Cognitive Biases in Visualisations*, November 2014.

Michael Correll[s], Eric Alexander[s], Danielle Albers[s], Alper Sarikaya[s], and Michael Gleicher. Navigating Reductionism and Holism in Evaluation. *BELIV '14 Proceedings of the Fifth Workshop on Beyond Time and Errors: Novel Evaluation Methods for Visualization*, 23—26, November 2014.

Michael Correll[(s)] and Michael Gleicher. Error Bars Considered Harmful. *IEEE Visualization Week (InfoVis) Posters*, October 2013.

Alper Sarikaya[(s)], Danielle Albers[(s)], and Michael Gleicher. Visualizing Protein Surface Classifier Results. *IEEE Visualization Week (SciVis) Posters*, October 2013.

Danielle Albers[(s)], Alper Sarikaya[(s)], and Michael Gleicher. Lightness Constancy in Surface Visualization. *IEEE Visualization Week (SciVis) Posters*, October 2013.

Eric Alexander[(s)], Joe Kohlmann[(s)], Robin Valenza, and Michael Gleicher. Serendip: Turning Topics Back to the Text. . *IEEE Visualization Week (InfoVis) Posters*, October 2013.

Danielle Albers[(s)], Colin Dewey, and Michael Gleicher. Sequence Surveyor: Scalable Multiple Sequence Alignment Overview Visualization. *VIZBI Workshop on Visualizing Biological Data*, March 2011.

Danielle Albers[(s)] and Michael Gleicher. Poster: Perceptual Principles for Scalable Sequence Alignment Visualization . *IEEE Visualization Week (InfoVis) Posters*, October 2010.

Michael Correll[(s)] and Michael Gleicher. Poster: Understanding Tagged Text . *IEEE Visualization Week (InfoVis) Posters*, October 2010.

Aaron Bryden[(s)], Yoram Griguer[(s)], Tom Grim[(s)], Jordan Moxon[(s)], Michael Gleicher. . Poster: Collaborative Visualization of Structural Biology. *IEEE Visualization Week (Vis) Posters*, October 2010.

Danielle Albers[(s)] and Michael Gleicher. Perceptual Principles for Scalable Sequence Alignment Visualization . *APGV Posters*, July 2010.

Greg Cipriano[(s)], Gary Wesenberg, Tom Grim[(s)], George Phillips, Michael Gleicher. GRAPE: GRaphical Abstracted Protein Explorer. *Eurovis 2010 Poster Proceedings.* June 2010.

Michael Gleicher, David Hatfield[(o)] and David Shaffer. Epistemic Frames: An exercise in visual comparison. *Eurovis 2010 Poster Proceedings.* June 2010.

Yuzhen Niu[(s)], Feng Liu[(s)], Xueqing Li, and Michael Gleicher. The Complexity of Perception of Image Distortion: An Initial Study. ACM CHI 2010, Atlanta, GA, USA, April 2010. (extended abstract, acceptance rate 57%)

Aaron Bryden[(s)], George Phillips and Michael Gleicher. M. Illustrations of Molecular Flexibility. IEEE Visualization 2009 Poster Proceedings, 2009.

Aaron Bryden[(s)], George Phillips and Michael Gleicher. M. Interactive Exploration of Protein Flexibility Using Coarse Grained Normal Modes. IEEE Visualization 2008 Poster Proceedings, 2008.

Gregory Cipriano[(s)], George Phillips Jr., and Michael Gleicher. Molecular Surface Abstraction. 3D SIG 2008 - Structural Bioinformatics and Computational Biophysics (an ISMB 2008 satellite meeting).

Rachel Heck[(s)] and Michael Gleicher. Parametric Motion Graphs. 2006 Symposium on Computer Animation Poster Session.

F. E. Pollick, V. Lestou, Z. Kourtzi, L. Kovar, M. Gleicher, J. Vangeneugden, R. Vogels. Using movement blends to study action recognition. Program No. 390.20.2005. *Society for Neuroscience*.

Michael Wallick[(s)] and Michael Gleicher. Magic Boards. SIGGRAPH 2005 Posters.

F. E. Pollick, Y. Ma, J. Vangenuegden, Z. Kourtzi, L. Kovar[(p)], M. Gleicher. Perceptual Catgeorization of Movement Blends. *2005 Symposium on Computer Animation Poster Session.*

Michael Gleicher and Lucas Kovar[s]. Automated Construction of Parameterized Motions from Motion Databases. 2005 SAE Digital Human Modeling For Design and Engineering Symposium, June 14-16, 2005.

Michael Gleicher and Lucas Kovar[s]. Methods for Motion Databases: Automated Search and Parameterization. 2005 Game Developers Conference. (acceptance rate 125/800)

Michael Gleicher, Tom Brunet[s], Evan Nowak[s], Elizabeth Osten[s], Matt McElwee[o], Kevin Tanty[o], Adam Gepner[o], and Garet Lahvis. Capillary Histology Imagery Visualization and Exploration. IEEE Visualization 2004 Poster Session. (acceptance rate 35/39)

Vidya Setlur[o], Saeko Takagi[o], Michael Gleicher, Ramesh Raskar, Bruce Gooch. Automatic Image Retargeting. SIGGRAPH 2004 Technical Sketch. (acceptance rate 153/423)

Michael Gleicher, Adam Hupp[s], Matthew McElwee[o], Elizabeth Osten[s], Brian Ries[s], and Garet Lahvis. Imaging Vascular Structures. Meeting of the Society of Molecular Imaging, 2003.

Book Chapters

Michael Gleicher. Curves. In P. Shirley and S. Marschner et al. *Fundamentals of Computer Graphics*, 3nd edition. AK Peters, 2009.

Michael Gleicher. More Motion Capture in Games — Can We Make Example-Based Approaches Scale? *Motion in Games*. Lecture Notes in Computer Science 5277/2008. Springer, 2008.

Michael Gleicher. Curves. In P. Shirley et al. *Fundamentals of Computer Graphics*, 2nd edition. AK Peters, 2005.

Michael Gleicher. Practical Issues in Graphical Constraints. In V. Saraswat and P. Van Hentenryck, eds. *Principles and Practice of Constraint Programming*. MIT Press, 1994.

Invited Publications

Michael Gleicher. More Motion Capture In Games - Can we make example-based approaches scale? Motion in Games Workshop, 2008.

Michael Gleicher. Comparitive Analysis of Constraint-Based Motion Editing Methods. Symposium on Human Modeling and Animation, June 2000.

Michael Gleicher. Animation from Observation. *Computer Graphics*, November, 1999.

Kenneth Herndon, Andries van Dam, and Michael Gleicher. The Challenges of 3D Interaction: A CHI '94 Workshop. *SIGCHI Bulliten* 26(4):36-43, 1994.

Thesis

Michael Gleicher. *A Differential Approach to Graphical Manipulation.* Ph.D. Thesis, Carnegie Mellon University, 1994. Also appears as CMU School of Computer Science Technical Report CMU-CS-94-217.

Juried Animations

Michael Gleicher. Spacetime Swing. 1998 SIGGRAPH Electronic Theater (acceptance rate approximately 50 out of 600 submissions). Also appears on *ACM SIGGRAPH Video Review*, 125, 1998. Also shown at several international film festivals.

Refereed Videos

Rachel Heck[s] and Michael Wallick[s] and Michael Gleicher. Virtual Videography. ACM Multimedia Video Program. (acceptance rate 6/12)

Michael Gleicher and Andrew Witkin[a]. Through-the-Lens Camera Control. *SIGGRAPH Video Review,* 86, 1992.

Michael Gleicher. Briar: A Constraint-Based Drawing Program. *SIGGRAPH Video Review*, 77, May 1992. CHI '92 formal video program.

Books Edited

Note: SIGGRAPH course proposals are peer reviewed. The notes from the one-day courses are books of approximately 300 pages and are distributed in soft cover to most of the several hundred attendies of the course, and distributed via CD-ROM to the thousands of conference attendies.

Michael Gleicher, Ed. Making Motion Capture Useful. SIGGRAPH Course Notes, 2001.

Michael Gleicher, Ed. Motion Editing: Principles, Practice, and Promise, SIGGRAPH Course Notes, 2000.

Michael Gleicher and Barton Gawboy, Eds. Motion Editing: Principles, Practice and Promise. SIGGRAPH Course Notes, 1999.

Patents

V. Gandhi, M. Kumar, R. Ronfard, M. Gleicher. System and method for automatically generating split screen for a video of a dynamic scene. USPTO 10,084,970, issued September 2018.

H. Jin, A. Agarwala, J. Wang, M. Gleicher, F. Liu. Methods and apparatus for subspace video stabilization. USPTO 8,872,928, issued October 2014.

M. Gleicher, F. Liu, and Y. Niu. Video Processing with Region-Based Warping. USPTO 8,649,558, issued February, 2014.

M. Gleicher and F. Liu, Systems And Methods For Generating And Displaying A Warped Image Using Fish Eye Warping. USPTO 8,218,895, issued July 2012.

V. Setlur, M. Gleicher, B. Gooch, S. Takagi, R. Raskar. Retargeting images for small displays. USPTO 7,574,069, issued August 2009.

One international patent applied for.

Research Support (as PI on all, except where noted)

University of Wisconsin Vilas Associates Award. (approx.) $100,000. 2021-2023.

National Science Foundation. REU: Research Experience for Undergrads: Subset Selection for Summary Visualization. $16,000. 2021-2022.

National Science Foundation. REU: Research Experience for Undergrads: Simulating Physical Interactions. $16,000. 2021-2022.

National Science Foundation. III: Small: Subset Selection for Summary Visualization. $500,000. 2020-2023.

National Science Foundation. REU: Research Experience for Undergrads: Interacting with Machine learning. $16,000. 2020-2021.

National Science Foundation. REU: Research Experience for Undergrads: Physical Interactions with Robots. $16,000. 2020-2021.

National Aeronautics and Space Administration (NASA). ULI: Effective Human-Robot Teaming to Advance Aviation Manufacturing (co-PI, with Bilge Multu (PI) and Robert Radwin and Michael Zinn (co-PIs), $3M, 2019-2022.

National Science Foundation. NRI: FND: Communicating Physical Interactions (PI, with Bilge Mutlu and Michael Zinn co-PIs), $749,986, 2018-2021.

National Science Foundation. EAGER: Interacting with Machine Learning through Visual Comparison of Outcomes, $169,964, 2019-2021.

Chan Zuckerberg Initiative. Computational tools for classification and human data interaction with cell-type labelled RNA-seq data (co-PI, with Colin Dewey, PI). $175,858, 2018-2019.

National Science Foundation. Assessing Complex Collaborative STEM Learning at Scale with Epistemic Network Analysis (co-PI with David Shaffer, PI), $973,173, 2017-2022.

Defense Advanced Research Projects Agency (DARPA), D3M Program: User-Driven Model Steering. (co-PI, with PI Remco Chang, and co-PIs Alex Endert and John Stasko), 2017-2020, $640,000 (Wisconsin part of $2.8M total).

University of Wisconsin, UW2020 Discovery Initiative, 2016. Physically-Responsive Collaborative Robot Manipulation (PI, with Bilge Mutlu and Michael Zinn co-PIs), $474,000, 2016-2018.

Oculus, LLC. Donation. $25,000 and hardware. 2016.

University of Wisconsin Graduate School Fall Research Competition. 2014. Readable Robot Reactions. $36,952. 2015-2016.

Mellon Foundation. Visualizing English Print from c.1470 to 1800. (PI for years 2-3, co-I and technical lead with Robin Valenza, PI for year 1). $925,000. 2013-2017.

National Science Foundation. NRI-Small: Perceptually Inspired Dynamics for Robot Arm Motion (PI, with co-I Nicola Ferrier and Bilge Mutlu). $800,000. 2012-2018

National Science Foundation. CGV: Medium: Collaborative Research: Visualizing Comparisons. (PI, with co-I Steve Franconeri and Charles Hansen). $1,200,000 ($600,000 for Wisconsin). 2012-2019.

National Science Foundation. REESE: Measuring Complex STEM Thinking Using Epistemic Network Analysis. (co-I with David Shaffer, PI), $488,000. 2012-2017.

National Science Foundation. AutoMentor: Virtual Mentoring and Assessment in Computer Games for STEM Learning. As Co-Investigator. (with David Shaffer, PI, and other co-Is) (competitive renewal in 2012) 2009-2014, $3,500,000 (Wisconsin Part).

University of Wisconsin Graduate School Research Competition. Fall Research Competition 2011 Robot Arm Perception. (co-I with Nicola Ferrier PI), $60,000. 2012-2013.

Mellon Foundation Grant. Visualizing English Print from c. 1470 to 1800. (co-I and technical lead, with Robin Valenza, PI, other co-Is) $411,000. 2011-2012.

University of Wisconsin Institutional Laboratory Modernization (ILM) Grant. 2011 (PI, with Eftychios Sifakis co-I). $110,000.

National Institute of Allergy and Infectious Diseases (NIAID/NIH). Adoptive Transfer of Immunity Elicited by Attenuated Vaccines. (co-I, with David O'Connor PI), $2,448,140, 2011-2016.

University of Wisconsin Graduate School Research Competition. Visualizing Comparisons. 2011-2012.

University of Wisconsin Graduate School Research Competition. Validating Virtual Reality for Motion Studies. 2011-2012. (co-PI with Robert Radwin, PI and Pattricia Brennan, co-PI).

National Science Foundation. HCC: Small: Designing Effective Gaze Mechanisms for Cross-Modal Embodied Agents. (co-I with Bilge Mutlu, PI). 2010-2013, $500,000.

National Science Foundation. CDI-Type 1: Physical and Chemical Alignment of Multiple Protein Surfaces. (with George Phillips, co-I, and Julie Mitchell, co-I) 2010-2012, $630,000.

National Science Foundation. Eager: Comparative Visualization. 2009-2011. $178,000.

Adobe Systems Laboratories, Video Stabilization. $38K.

University of Wisconsin Graduate School Research Competition. Abstraction and Comparative Tools for Functional Surfaces of Proteins (with George Phillips, co-I) 2007-2008. $35,000.

University of Wisconsin, Division of Information Technologies. Engage (Phase 2) Grant. 2007. $5000.

National Science Foundation: SGER: Volume Comparisons. 2005-2006. $55,000.

University of Wisconsin Graduate School Research Competition. Human Motion Synthesis-by-Example. 2005-2006. $26,000.

National Science Foundation. Retargetable Images and Video (with Bruce Gooch, co-I). 2004-2007. $700,000.

University of Wisconsin Graduate School Research Competition. Retargetable Images and Video. 2004-2005. $18,000.

Wisconsin Interdisciplinary Molecular Imaging Center (WIMIC). Development of Software for Co-Registration of Micro-CT scans and Microscopy Data for Solid Tumors. Garet Lahvis, (PI), Michael Gleicher, Jamey Weichert, Rich Halberg (co-I). 2003, $50,000.

National Science Foundation. Mix-n-Match Motion: Animating Virtual Experiences. (with Stephen Chenney co-I). 2002-2005, $510,000.

University of Wisconsin Graduate School Research Competition. Vascular Visualization (with Garet Lahvis, co-I) 2003-2004, $35,000.

National Science Foundation. Research Experience for Undergraduates, Geometry-Aware Motion Editing (2002), $12,000.

University of Wisconsin-Madison Graduate School. Travel Grant. 2002. $1000.

University of Wisconsin-Madison Industrial and Economic Development Research (I&EDR) Program. Motion Editing for Interactive Entertainment. 2001. $29,000.

University of Wisconsin Instructional Laboratory Modernization Grant. 2001 (with Stephen Chenney, co-PI). 30 workstations.

National Science Foundation. Virtual Videography. 2001-2004, $384,000.

Microsoft Research. Graphics by Example. 2000-2001, $10,000.

National Science Foundation. Research Experience for Undergraduates, Animation for Real-Time Characters (2001), $12,000.

National Science Foundation. Career: Motion Transformations for Computer Animation. 2000-2004, $245,000.

Microsoft Research. Animation from Observation.1999-2000, $40,000.

Microsoft Corporation. Support for development of a graphics projects laboratory. 1999, $8000 + 2 workstations..

Intel Corporation. Instructional facility for graphics instruction and course development. 1999. 16 workstations.

Hardware donations for research support from IBM (2000), Pinnacle Systems (1998), Microsoft (2004), Nokia (2004) and Nvidia (2001, 2002, 2004, 2008).

Software donations for research support from Adobe (2008), Kinetix division of Autodesk (2001), Alias (1998,1999,2000,2004), Pixar (1998, 2000,2001), Softimage (2000, 2001).

University Classroom Teaching

CS765 Data Visualization – Developed new course. Taught Spring 2017, Fall 2017, 2018, 2019, 2020, 2021, 2022.

CS559 Computer Graphics - Developed new course. Taught Fall 1999 (as CS638, Topics in Computing), Fall 2000, Fall 2001, Fall 2003, Fall 2005, Fall 2006, Fall 2007, Fall 2008 Fall 2009, Fall 2010, Fall 2014, Fall 2015, Spring 2019, Spring 2020, Spring 2021, Spring 2022.

CS679 Computer Game Technologies – Redesigned course. Taught Spring 2007, Spring 2008, Spring 2010, Fall 2011, Fall 2013.

CS638/CS838 Visualization: From Data to Understanding. Developed new course, Taught Spring 2010, Spring 2012, Spring 2015.

CS638 Projects in Virtual Reality, Spring 2011. Helped design and supervised the teaching of the class (Kevin Ponto, a post-doctoral associate under my direction, was the main instructor).

CS638/CS838 Advanced Computer Graphics – Developed new course. Taught Spring 2009.

CS777 Computer Animation – Developed new course. Taught Spring 1999 (as CS838, Topics in Computing), Spring 2000 (as CS838), Spring 2001 (as CS838), Spring 2002 (as CS838), Spring 2003, Spring 2004, Spring 2006, Spring 2011, Spring 2013.

CS838 Special Topics: Projects in Graphics. Taught Fall 2002.

CS367 Data Structures. Taught Fall 1998.

Other Teaching Experience

Lecturer, SIGGRAPH '08 Course Motion Planning and Autonomy for Virtual Humans.

Lecturer, SIGGRAPH '02 Course Motion Capture: Pipeline, Applications, and Use.

Organizer and Lecturer, SIGGRAPH '01 Course *Making Motion Capture Work*.

Organizer and Lecturer, SIGGRAPH '99 and SIGGRAPH '00 course *Motion Editing: Principles, Practice and Promise.*

Advised indendent study projects (CS699 and 799).

Mentor and supervisor, Undergraduate Research Scholars program, (2000, 2001).

Teaching Assistant for Computer Graphics (Professor Andrew Witkin, Fall 1991).

Teaching Assistant for Software Engineering (Professor Jaime Carbonell, Spring 1989).

Advisor for several undergraduate research projects at CMU.

Invited Workshop Participation

2017 Dagstuhl Workshop on Connecting Visualization and Data Management Research, Wadern Germany

2016 Streaming Visual Analytics Workshop, Raleigh, NC

2015 Computer-Aided Personalized Education Visioning Workshop, Washington DC

2014 Dagstuhl Workshop on Scientific Visualization, Wadern Germany

2011 Computing in Image Processing, Computer Graphics, Virtual Surgery, and Sports. Institute for Mathematics and Its Applications, Minneapolis, MN.

2010 Dagstuhl Workshop on Information Visualization, Wadern, Germany

2008 Motion in Games Workshop, Utrecht, Nethelands.

2007 Teaching Academy Summer Institute, University of Wisconsin, Madison, WI.

2004 Workshop on Image Processing and Related Issues, Zhejiang University, Hangzhou, China.

2003 Academia and Interactive Multi-Media Symposium. Sony Corportation. San Diego, CA.

2002 Workshop on Algorithmic Issues in Motion. DIMACS (Institute for Discrete Mathematics and Computer Science), New Brunswick, NJ.

2002 Workshop on Intelligent Human Augmentation and Virtual Environments, Chapel Hill, NC.

2002 Midwest Mechanical Motion Meeting. Urbana, IL.

2001 Institute for Mathematics and its Applications Workshop on Computer Graphics, Minneapolis, MN.

2000 Workshop on Human Modeling and Animation, Seoul, Korea.

1993 Workshop on Automatic Differentiation, Argonne, IL.

Professional Activities: Editorships

Guest Editor, Computer Graphics Forum (Special Issue – EuroVis Proceedings), 2019,2020.

Associate Editor, ACM Transactions on Graphics, 2002-2004.

Associate Editor, Computer Graphics Forum, 2009-2012.

Associate Editor, Open Virtual Reality Journal, 2009-present.

Associate Editor. Foundations and Trends in Computer Graphics and Computer Vision, 2004-present.

Associate Editor, IEEE Transactions on Vizualization and Computer Graphics, 2003-2007.

Professional Activities: Conference Organization

Area Papers Chair, IEEE Vis 2021, 2022.

Full Papers Chair, EuroVis 2019, 2020

General Chair, 2007 Symposium on Computer Animation.

Steering Committee, Symposium on Computer Animation 2001-2010.

Steering Committee, 2005 Symposium on Interactive 3D Graphics.

Professional Activities: Program Committees (selected)

Best Dissertation Committee, IEEE Vis, 2019.

Program Committee for IEEE VAST 2014, 2015, 2019, 2020.

Program Committee IEEE Information Visualization 2012, 2013, 2016, 2017, 2018.

Program Committee for WORMP 2015 (ICRA 2015 Workshop on Optimal Robot Motion Planning).

Program Committee for Eurographics Workshop on Intelligent Camera Control, Cinematography and Film Editing (WICED) 2015, 2017.

Program Committee for SIGGRAPH 2012, 2009, 2008.

Program Committee Eurographics 2012, 2004, 2002.

Program Committee for SIGGRAPH Asia 2010

Program Committee for 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2003, 2001 Symposium on Interactive 3D Graphics.

Program Committee 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002 Eurographics/SIGGRAPH Symposium on Computer Animation

Program Committee for GRAPP 2008, 2007 (International Conference on Computer Graphics Theory and Applications)

Program Committee for MIRAGE 2009, 2008, 2007 (international conference on image synthesis applications)

Program Committee 2006, 2004 SIGGRAPH Symposium on Non-Photorealistic Rendering (NPAR)

Program Committee V-Crowds 2005.

Program Committee Pacific Graphics 2003, 2002.

Program Committee 2003 International Workshop on Multimedia Technologies in E-Learning and Collaboration.

Program Committee Computer Animation 2000 and 2002.

Program Committee Smart Graphics 2001 and 2002.

Program Committee for 2001 Eurographics Workshop on Computer Animation and Simulation.

Program Committee for CVPR 2000, 1998 (IEEE Conference on Computer Vision and Pattern Recognition)

Program Committee for FG2000 (2000 IEEE Conference on Face and Gesture Recognition)

Jury (Program Committee) for SIGGRAPH '99 Technical Sketches.

Program Committee for the 1995 International Workshop on Constraints for Graphics and Visualization.

Professional Activities: Other (selected)

Panelist, NSF 2021, 2020, 2018, 2017, 2015, 2012 (*2), 2008, 2005, 2003, 2002.

Panel Moderator, Symposium on Computer Animation in Fast Forward, at SIGGRAPH 2002.

Lecturer and contributor to SIGGRAPH courses in 2008, 2002.

Organizer and Lecturer, SIGGRAPH 2001 Course *Making Motion Capture Work*. (course proposal was refereed).

Organizer and Lecturer, SIGGRAPH 2000 Course Motion Editing: Principles, Practice and Promise. (course proposal was refereed).

Organizer and Lecturer, SIGGRAPH 1999 Course Motion Editing: Principles, Practice and Promise. (course proposal was refereed).

Co-organizer (with Kenneth Herndon and Andries van Dam of Brown University) of the CHI '94 Workshop on the Challenges of 3D Interaction.

Reviewer for numerous journals, conferences and symposia.

Reviewer for KISTEP (Korean Science and Technology Evaluation Program), Ohio Eminent Scholars Program, Ohio Incentive Fund, Austrian Science Foundation, Netherlands Science Foundation.

Member ACM, SIGGRAPH, IEEE

Departmental and University Service (selected)

2014-2021 Curriculum Committee Chair

2014-2015 Admissions Committee

2013 Departmental Budget Committee

2013 Departmental Ad Hoc Building Committee

2008-2013 External Advising Chair

2009-2010 Departmental Awards Committee

2009-2010 Faculty Senator

2000, 2009 Admissions Committee.

2005-2008 Undergraduate Advising Committee Chair.

2003-2004 Curriculum Committee

2002-2010 Qualifying Exam Committee

Organizer, Departmental Distinguished Lecture Series, Fall, 2001.

1999-2001, Computational Sciences Executive Committee.

2000-2001, 2001-2002 Undergraduate Advising Committee.

2000-2001, 2001-2002 Colloquium Chair.

Other University Activities

Leadership Committee, Eye Research Institute

Advisory Board Member, Living Environments Laboratory, Wisconsin Institute for Discovery

Faculty Trainer, Computation and Informatics in Biology and Medicine (CIBM) Training Program

Faculty Trainer, Clinical Neuroengineering Training Program

Faculty Trainer, Bringing Advanced Computational Techniques to Energy Research (BACTER) Training Program

Technical Consulting

Rockstar Games, Vienna, 2004-2005. Consultation on animation methods for games.

House of Moves Studios, August 2004. Consultation on motion capture tools.

Electronic Arts, Canada, April 2004. Consultation on animation methods for games.

Lambsoft, Inc, July, 1999. Consultation on interactive animation tools.

Square USA Studios, November, 1998. Consultation on animation tools.

Legal / Expert Witness Consulting

2019, on behalf of client Motiva Patents, LLC. Expert witness consulting in Motiva Patents, LLC, v. Sony Corporation et al., U.S. District Court for the Eastern District of Texas Lufkin Division, Case No. 9:18-CV-00180-JRG/KFG.

2018-2019, Buether Joe & Carpenter, LLC, Dallas, on behalf of client Infernal Technologies, LLC and Terminal Reality, Inc. Expert witness consulting in Infernal Technology, LLC, and Terminal Reality, Inc., v. Microsoft Corporation, U.S. District Court for the Eastern District of Texas Marshall Division, Case No. 2:18-cv-00144-JRG.

2012-2018, Mishcon de Reya, LLP, New York, on behalf of client Planet Blue. Expert witness consulting on animation technologies in MCRO, INC., D.B.A. PLANET BLUE v. BANDAI NAMCO GAMES AMERICA, INC., et al., U.S. District Court for the Central District of California, Western Division, Lead Case No. 12-cv-10322-GW. Work included deposition testimony for plaintiffs.

2016-2017 Skadden, Arps, Slate, Meagher and Flom, LLP, New York/Palo Alto, on behalf of client Zenimax Media. Expert witness consulting on virtual reality technologies in ZeniMax Media Inc. et al. v. Oculus VR, LLC et al., U.S. District Court for the Northern District of Texas, Case No. 3:14-cv-01849. Work included deposition and trial testimony for plaintiffs.

2011-2012, Pepper Hamilton, LLP, Boston on behalf of client Graphics Properties Holdings, Inc. Consulting on graphics technologies.

2010-2011, Troutman Sanders, LLP, Atlanta/New York, 2011, on behalf of client Graphics Properties Holdings, Inc. Expert witness consulting on graphics technologies. Work included deposition testimony.

2008-2009, McKool Smith, LLP, New York. Consultation on facial animation technologies.

2007-2008, Morgan, Lewis, Bockius LLP, New York, on behalf of client Silicon Graphics, Inc. Expert witness consulting on graphics technologies.

Ph. D. Theses Supervised

Guru Subramani, *Recognizing and inferring physical actions from human demonstrations for robot programming*, Ph. D. Dissertation (Mechanical Engineering), (jointly supervised with Michael Zinn), June, 2019.

Alper Sarikaya. *Targeting Designs of Scalable, Exploratory Summary Visualizations*. Ph. D. Dissertation, August 2017.

Tomislav Pejsa, *Effective Directed Gaze for Character Animation*, Ph. D. Dissertation, (jointly supervised with Bilge Mutlu), December 2016.

Eric Alexander. *Enabling Exploration and Hypothesis Formation within Topic Models*. Ph. D. Dissertation, November 2016.

Sean Andrist, *Gaze Mechanisms for Situated Interaction with Embodied Agents*, Ph. D. Dissertation (jointly supervised with Bilge Mutlu), July 2016.

Michael Correll, *Improving Visual Statistics.* Ph. D. Dissertation, July 2015.

Danielle Albers Szafir. *Improving Color for Data Visualization*, Ph. D. Dissertation, July 2015.

Aaron Bryden, *Visualization and Analysis of Protein Flexibility*. Ph. D. Dissertation, (jointly supervised with George Phillips), August 2011.

Gregory Cipriano. *Molecular Surface Abstraction*. Ph. D. Dissertation. August 2010.

Feng Liu. Technologies for Creating Good Camera Motion. July 2010.

Rachel Heck-Rose. Automated Authoring of Quality Human Motion for Interactive Environments. Ph. D. Dissertation. August 2007.

Michael Wallick. Automatic Organization of Large Collections of Photographs. Ph. D. Dissertation. June 2007.

Rajarathinam Arangarasan. *Guided Trace and Stitch Modeling.* Ph. D. Dissertation. May 2007.

Mankyu Sung. Scalable, Controllable, Efficient and Convincing Crowd Simulation. Ph. D. Dissertation 2005.

Lucas Kovar. Data-Driven Methods for Automated, Controllable Synthesis of Realistic Human Motion. Ph. D. Dissertation 2004.

Other Theses Supervised

Kevin Welsh. *Platform for Teleoperation Performance Evaluation*. Masters Thesis (jointly supervised with Bilge Mutlu), May 2022.

Yunyu (Bella) Bai. AbstractsViewer: Apply Interpretability in Text Corpus Exploration. Masters Thesis, May 2022.

Haochen Shi, B.S. Honors Thesis, *Extending Inverse Kinematics*, May, 2021.

Christopher Bodden, *Systems for Synthesizing and Studying Robot Motion*, Masters Thesis (jointly supervised with Bilge Mutlu), May, 2016.

Subhadip Ghosh, *Geometrically Simplified 3D Reconstruction from Unstructured Point Clouds*, Masters Thesis, May, 2012.

Aneesh Karve. Glyph-based Overviews of Large Datasets in Structural Bioinformatics. Masters Thesis. May 2007.

Cody Robson. Labeling a Molecular Triangle Mesh. B.S. Honors Thesis, May 2007.

Brian Byrne. Vision Algorithms on GPUs. B.S. Honors Thesis, May 2007.

K. David Lee. Collision Dection and Response. B. S. Honors Thesis, August 2006.

Andrew Selle. Motion Editing with Paths and Tiles. B. S. Honors Thesis, May 2003.

John Schreiner. Fast Inverse Kinematics for Motion Editing. B.S. Honors Thesis, May 2002.

Other Mentored Associates

Post Doctoral Associates: Hyun Joon Shin (2002-2003), Lucas Kovar (2004-2005), Gregory Cipriano (2010), Kevin Ponto (2010-2012), Florian Heimerl (2017-2020), Emmanuel Senft (2019-present).

Pre-Doctoral Trainees: Adam Hupp (2003 research intern), K. Evan Nowak (2005 research intern), Yoram Griguer (2010 visiting researcher), Yuzhen Niu (2008-2010 visiting scholar), Joe Kohlmann (2012-2013 research intern), Luis Molina (2019-present, research intern).

Invited Talks (selected)

Interpreting Embeddings with Comparison. CSIG-VIS International Forum, invited (virtual) lecture (October 2021).

Dumb Robots for Smart People (Direct Control Interfaces for Robotics). Invited Keynote, Artificial Intelligence for Human-Robot Interaction, AAAI Fall Symposium (November 2019).

Interpreting Embeddings with Comparison. University of Arizona Departmental Seminar (January 2019).

What Sheakespeare Taught Us About Visualization and Data Science. University of Vienna, Distinguished Lecture Series (May 2018), University of Arizona TRIPODS (Data Science) Seminary (January 2019).

Keynote: What Sheakespeare Taught Us About Visualization and Data Science. IEEE Professional Communications Conference, Madison, WI (July 2017).

Keynote: Through the lens of 25 Years: The Real Lessons of Through-the-Lens Camera Control. 6th Workshop on Intelligent Cinematography and Editing, Lyon, France (April 2017).

What Shakespeare Taught Us About Data Science. Departmental Seminar at New York University (November 2016) and Johns Hopkins University (December 2017).

Data Visualization and Analysis. 1 day mini-course at the Early Modern Digital Agendas (EMDA) workshop, Washington DC (June 2015).

Applied (Human) Perception for Robot Interaction and Data Visualization. Seminar presented at LAAS/CNRS, Toulouse, France (July 2014).

Seeing, Scatterplots and Shakespeare. Invited keynote talk at Journée scientifique de l'ARC 6 in Grenoble (November 2013). Also presented at Vienna University of Technology (December 2013) and INRIA-Saclay (February, 2014).

From Art and Perception to Visualization and Virtual Agents. Seminar presented at Naval Research Laboratory (Washington, DC) (October 2013).

From Art and Perception to Visualization and Virtual Reality. Seminar presented at INRIA Rhone Alpes (Grenoble, FR) and INRIA Méditerranée (Sophia Anitoplis, FR) (June 2012).

Seeing Shakespeare and Sequences: Making Pictures to Learn From Things You Don't Want to Read. Memorial Libraries / Humanities Research Bridge, University of Wisconsin (April 2012).

From Art and Perception to Visualization and Video. Robotics Seminar, CMU (November 2011).

Pictures from Piles of Data: How Graphics, Multimedia, Vision, Visualization, Animation and Cartography All Connect. Institute for Mathematics and its Applications (IMA), Minneapolis, MN (Match 2011).

Pictures from Piles of Data. Invited Seminar. NAVTEQ Corporation (Chicago, IL, July, 2009), Chaos and Complexity Seminar, UW Department of Physics (February 2010).

Motion Synthesis By Example: Data driven approaches to animating characters. Invited Seminar, IRISA / University of Rennes I, Rennes, France, March, 2009.

Motion Synthesis By Example: Data driven approaches to animating characters in games. Distinguished Lecture, School of Computer Science, University of Utah, 2008.

Will Synthesis-By-Example Scale? Invited presentation at corporate sites, 2008.

More Motion in Games? Will Synthesis-By-Example Scale? Invited presentation, 2008 Motion in Games Workshop, Utrecht.

Motion Synthesis By Example. Department of Computer Science, Utrecht University, 2008.

Animating by Example (Tutorial): Invited presentation, 2005 Game Technologies Summit.

Animation by Example: Influence on Production. Invited presentation at IMAGINA 2004.

Animation by Example: Zejiang University (2004), Chinese Academy of Sciences Institute for Computing Technology (2004), Microsoft Research Asia (2004), University of Brittish Columbia (2004), INRIA Sophia-Antipolis (2004), MIT (2004), University of Brittish Columbia (2004), Seoul National University (2004), Korean Advanced Institute for Science and Technology (KAIST) (2004).

Human Animation for Interactive Systems: Reconsiling High Quality and High Performance. University of Texas Austin (2003), University of California Berkeley (2003), Sony Academia and Interactive Media Symposium (San Diego, Califonia) 2003.

Animation by Example. IBM Research (2002), University of Illinois Urbana-Champaign (2002), Microsoft Asia Research Bejing (2002), Stanford University (2002), University of Michigan (2002), University of Pennsylvania (2002), Georgia Tech (2002), New York University (2002).

Quack! Quick! We Need A Dancing Duck: Tales of Motion Use and Re-Use. Institute for Mathematics and its Applications, Minneapolis, MN (2001), Academic Center for Computing and Design, Ohio State University (2001), USC Institute for Creative Technologies (2001), Electronic Arts (2001).

Animation by Adaptation. Distinguished Lecture Series. University of Virginia, Charlottesville, VA (2001). Also given as a 2 part tutorial at the Institute for Mathematics and its Applications, Minneapolis, MN (2001).

Animation by Adaptation. U.W. Computational Sciences Seminar (2000).

Temporally global methods for visual media. Sogang University (2000), Seoul National University (2000), Korean Advanced Institute for Science and Technology (KAIST) (2000).

Motion Transformations with Spacetime Constraints. Stanford University (1999), Microsoft Research (1999), Mathematics and Computational Engineering (MACE) at University of Wisconsin-Madison (1999), Xerox Palo Alto Research Center (1999), Sony Consumer Electronics R&D (1999).

Editing and Retargetting Animated Motion with Spacetime Constraints. California Institute of Technology (1998), University of Wisconsin-Madison (1998), University of California, Los Angeles (1998), Boston University (1998).

Animation for the Rest of Us. University of Pennsylvania (1997), Boston University (1997), and University of California, Berkeley (1997).

Differential Methods in Graphical Interaction. Theory Institute on Complexity Issues in Computational Differentiation. Argonne National Laboratories, May, 1993.

Invited seminars at Sun Microsystems (1990), Schlumberger Laboratory for Computer Science (1990), Apple Computer (1991, 1993), Xerox Palo Alto Research Center (1993), Silicon Graphics (1993), Industrial Light and Magic (1993), Carnegie Mellon University (1993), Interval Research (1995), Stanford University (1995), ATT Bell Labs (1995) and University of California, Santa Cruz (1995).

Presented seminars about thesis (1994) at M.I.T., Lotus Corp., Univ. of California, Davis, DEC Systems Research Center, Microsoft Corp, University of Maryland, University of Virginia, Washington University, Apple Computer, Univ. of California, Berkeley, University of Arizona, University of Minnesota, and Johns Hopkins University.