KWAN-LIU MA
Home Page: http://www.cs.ucdavis.edu/~ma

PROFESSIONAL PREPARATION

University of Utah, Computer Science B.S. (1986), M.S. (1988), Ph.D. (1993)

APPOINTMENTS

Distinguished Professor (Computer Science), 7/2018 –
Professor (Computer Science), 7/2003 – 6/2018
Chair (Graduate Group of Computer Science), 7/2009 – 6/2018
Associate Professor (Computer Science) 7/1999 – 6/2003
University of California at Davis

Senior Staff Scientist, 8/1998 – 6/1999
Staff Scientist, 6/1993 – 7/1998
ICASE, NASA Langley Research Center, Hampton, VA

RECENT PUBLICATIONS

1. Xiaoyu Zhang, Jorge Piazentin Ono, Huan Song, Liang Gou, Kwan-Liu Ma, Liu Ren: SliceTeller: A Data Slice-Driven Approach for Machine Learning Model Validation. IEEE Transactions on Visualization & Computer Graphics (**TVCG**) 29(1): 842-852 (2023)

2. Takanori Fujiwara, Xinhai Wei, Jian Zhao, Kwan-Liu Ma: Interactive Dimensionality Reduction for Comparative Analysis. **TVCG** 28(1): 758-768 (2022)

3. Shilpika, Takanori Fujiwara, Naohisa Sakamoto, Jorji Nonaka, Kwan-Liu Ma: A Visual Analytics Approach for Hardware System Monitoring with Streaming Functional Data Analysis. **TVCG** 28(6): 2338-2349 (2022)

4. Xiwei Xuan, Xiaoyu Zhang, Oh-Hyun Kwon, Kwan-Liu Ma: VAC-CNN: A Visual Analytics System for Comparative Studies of Deep Convolutional Neural Networks. **TVCG** 28(6): 2326-2337 (2022)

5. Takanori Fujiwara, Xinhai Wei, Jian Zhao, Kwan-Liu Ma: Interactive Dimensionality Reduction for Comparative Analysis. **TVCG** 28(1):758-768 (2022)

6. Jianping Kelvin Li, Kwan-Liu Ma: P6: A Declarative Language for Integrating Machine Learning in Visual Analytics. **TVCG** 27(2): 380-389 (2021)

7. Tarik Crnovrsanin, Shilpika, Senthil K. Chandrasegaran, Kwan-Liu Ma: Staged Animation Strategies for Online Dynamic Networks. **TVCG** 27(2): 539-549 (2021)

8. Keshav Dasu, Kwan-Liu Ma, Joyce Ma, Jennifer Frazier: Sea of Genes: A Reflection on Visualising Metagenomic Data for Museums. **TVCG** 27(2): 935-945 (2021)

9. Huu Tan Nguyen, Abhinav Bhatele, Nikhil Jain, Suraj P. Kesavan, Harsh Bhatia, Todd Gamblin, Kwan-Liu Ma, Peer-Timo Bremer: Visualizing Hierarchical Performance Profiles of Parallel Codes Using CallFlow. **TVCG** 27(4): 2455-2468 (2021)

10. Takanori Fujiwara, O.-H. Kwon, K.-L. Ma: Supporting Analysis of Dimensionality Reduction Results with Contrastive Learning. **TVCG** 26(1): 45-55 (2020)

11. Takanori Fujiwara, J.-K. Chou, Shilpika, P. Xu, L. Ren, K.-L. Ma: An Incremental Dimensionality Reduction Method for Visualizing Streaming Multidimensional Data. **TVCG** 26(1): 418-428 (2020)

12. Joyce Ma, K.-L. Ma, J. Frazier: Decoding a Complex Visualization in a Science Museum - An Empirical Study. **TVCG** 26(1): 472-481 (2020)

13. Oh-Hyun Kwon, K.-L. Ma: A Deep Generative Model for Graph Layout. **TVCG** 26(1): 665-675 (2020)

14. Jianping K. Li, K.-L. Ma: P5: Portable Progressive Parallel Processing Pipelines for Interactive Data Analysis and Visualization**. TVCG** 26(1): 1151-1160 (2020)

15. Jiangping K. Li, K.-L. Ma: P4: Portable Parallel Processing Pipelines for Interactive Information Visualization. **TVCG** 26(3): 1548-1561 (2020)

[Full Publication List]

SYNERGISTIC ACTIVITIES

Director, UC Davis Center for Visualization
This Center promotes interdisciplinary research and education in data visualization. (since 2013)

Director, DOE SciDAC Institute for Ultra-Scale Visualization
Ma led this 5-year project (2006-2011) involving five other institutions to make the visualization research innovations enabling scientific discovery in petascale and exascale.

Founding Members of New Conferences and Workshops
Ma is the lead founding member of the IEEE Pacific Visualization Symposium, which provides researchers in the Asian Pacific region an international forum for greater exchange with others in the field since 2008. Ma is also a founding member of the IEEE Symposium on Large Data Analysis and Visualization, which has been held annually in conjunction with IEEE VIS since 2011. Ma has been the leading organizer of the Ultrascale Visualization Workshop at the annual Supercomputing Conference since 2006.

Keynote/Plenary Speeches
CGW 2022, ACM IUI 2021, TaiCHI 2020, DSSV 2019, International Symposium on Visualization 2018, Sino-German Workshop on Visualization 2018, Big Data Visualization 2018, VDA 2018, PacificVAST 2017, ozCHI 2016, VIZBI 2016, ACM Visualization Symposium 2015, Graph Drawing 2015, China Vis 2015, ChinaGraph 2014, TextVis 2013, TopoInVis 2013, SIBGRAPI 2012, Pacific Visualization 2011, Pacific Graphics 2009, ICAP 2009, ChinaGraph 2008, SIAM Parallel Processing for Scientific Computing 2008, ISVC 2007, Computer Graphics Workshop 2007, CAD&CG 2006, and APVis 2006

Selected Professional Service

- Area Chair, Storage, Visualization, and Analytics, SC 2023
- IEEE VIS Steering Committee member
- Papers Co-Chair, Viz Sec 2013, Graph Drawing 2017, EuroVis 2015, 2016 and InfoVis 2015, 2016
- Area Chair, Storage, Visualization, and Analytics, SC 2013
- Co-Chair, Ultrascale Visualization Workshop,SC 2006-2015
- Symposium Co-Chair, IEEE Symposium on Large Data Analysis and Visualization, 2011
- Symposium Co-Chair, IEEE Pacific Visualization Symposium, 2010
- Paper Co-Chair, IEEE Visualization Conference, 2008 and 2009
- Paper Co-Chair, IEEE Pacific Visualization 2008 Symposium
- Paper Co-Chair, Eurographics Parallel Graphics and Visualization 2008 Symposium (EGPGV'08)
- Best Papers Committee, IEEE VAST 2017, IEEE SciVis 2017, ACM Vis 2017, ChinaVis 2018
- Steering Committee Member, VizSec (2009-14), EGPGV (2008-15), LDAV (2011-19), IEEE PacificVis
- Associate Editor, IEEE Transactions on Visualization and Computer Graphics (2007-11)
- Associate Editor, Journal of Computational Science and Discovery (2008-14)
- Associate Editor-in-Chief, IEEE Computer Graphics and Applications (2013-19)
- Associate Editor, ACM Transactions on Interactive Intelligent Systems (2021-present)
- Associate Editor, J. of Visualization (since 2010)
- Associate Editor, J. of Visual Informatics (since 2016)
- Associate Editor, J. of Computational Visual Media (since 2015)

HONORS & AWARDS

2022 Two IEEE VIS Best Paper Honorable Mention Awards
2022 IEEE PacificVis Best Paper Honorable Mention Award
2021 VISSOFT Most Influential Paper Award
2019 Inductee of the IEEE Visual Academy
2018 Distinguished Professor, UC Davis
2018 Best Visual Storytelling Award, IEEE PacificVis
2017 Best Visual Storytelling Award, IEEE PacificVis
2017 Best Paper Award, IEEE Pacific Visualization Symposium (PacificVis 2017)
2015 Best Paper Award, Graph Drawing 2015
2015 Best VisNotes Award, IEEE Pacific Visualization Symposium (PacificVis 2015)
2013 IEEE VGTC Visualization Technical Achievement Award
2012 IEEE Fellow
2011 Best Paper Award, the 3rd Workshop on Large-Scale System & Application Performance
2009 Best Paper Award, International Conference on Arts & Technology
2008, 2009, and 2012 HP Labs Innovation Research Award
2007 College of Engineering Mid-Career Research Award, UC Davis
2001 Schlumberger Foundation Technical Award
2000 NSF Presidential Early Career Award for Scientists and Engineers (PECASE)
1999 NSF Career Award