

TAKANORI FUJIWARA

University of California, Davis
Department of Computer Science
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<https://takanori-fujiwara.github.io/>

EDUCATION

- 2015 - 2021 **PH.D. IN COMPUTER SCIENCE, UNIVERSITY OF CALIFORNIA, DAVIS** California
- Dissertation title: "Advancing Visual Analytics Using Dimensionality Reduction"
<https://drive.google.com/file/d/1sueOX05ILqcbHmZ3K228ax76rL6BcQXj>
 - Advisor: Dr. Kwan-Liu Ma
- 2009 - 2011 **MASTER OF ENVIRONMENTAL STUDIES, UNIVERISTY OF TOKYO** Tokyo
- Thesis title: "Dimensional Transformation Visualization Method Using Self-Similar Objects for Multi-scale Multi-dimensional Data" <http://hdl.handle.net/2261/48988>
 - Advisor: Dr. Koji Okamoto
- 2005 - 2009 **BACHELOR OF ENGINEERING IN SYSTEMS INNOVATION, UNIVERSITY OF TOKYO** Tokyo
- Thesis title: "A Study on the Uneven Distribution and Propagation of Knowledge in Organizations"
 - Advisor: Dr. Hiroshi Okuda

FIELDS OF INTEREST

Data Visualization
Data Science
Network Science
Machine Learning

PROFESSIONAL EXPERIENCE

- 2015.10 - 2021.12 **RESEARCH ASSISTANT, UNIVERSITY OF CALIFORNIA, DAVIS** California
- Designed new dimensionality reduction, contrastive learning methods to aid visual analytics. Developed visual analytics systems for various application fields, including biomedical, healthcare, neurobiology, network, and computer sciences.
 - Advisor: Dr. Kwan-Liu Ma
- 2019.6 - 2019.9 **RESEARCH INTERN, FX PALO ALTO LABORATORY** California
- Developed a visual analytics method for identifying unique characteristics in one network when compared with another network
 - Mentors: Dr. Jian Zhao and Dr. Francine Chen
- 2016.6 - 2016.8 **RESEARCH INTERN, ARGONNE NATIONAL LABORATORY** Illinois
- Developed a visual analytics system for optimizing communications within supercomputers
 - Mentors: Dr. Preeti Malakar and Dr. Khairi Reda
- 2011.4 - 2015.8 **ASSISTANT MANAGER, KAJIMA CORPORATION** Japan
(Kajima Corporation is one of the largest construction company in Japan)
- 2014.6 - 2015.8 Assistant Manager in Architectural Construction Management Dep., Tokyo Branch Tokyo
- Worked on business analysis, project management for developing IT systems (including resource assignment optimization system, communication infrastructure, etc.), deployment of IT systems to construction sites, construction management.
- 2013.4 - 2014.6 Assistant Manager in Management Dep., Chubu Branch Nagoya
- Worked on business analysis, project management for developing IT systems (including inspection systems, etc.), deployment of IT systems to construction sites.

2011.4 - Assistant Manager in IT Solutions Dep., the Headquarters Tokyo
2013.3 - Constructed IT networks and infrastructures for H.Q., branches, and construction sites in Japan and overseas.

AWARDS AND HONORS

2020 Best Graduate Researcher Award from Graduate Group in Computer Science, University of California, Davis.

2019 Best Paper Honorable Mention on IEEE VIS 2019 (VAST).
T. Fujiwara, O.-H. Kwon, and K.-L. Ma. "Supporting Analysis of Dimensionality Reduction Results with Contrastive Learning." *IEEE Transactions on Visualization and Computer Graphics*, Vol. 26, No. 1, pp. 45-55, 2020. <https://arxiv.org/abs/1905.03911>

2018 Honorable Mention on IEEE PacificVis 2018 Visual Storytelling Contest.
K. Dasu, S. Bae, T. Fujiwara, and K.-L. Ma. "Learning About Disease Associations in Taiwan." <https://k-dasu.github.io>

2014 Award for Streamlining Business Operations from Kajima Corporation

FUNDING

CONTRIBUTION TO GRANTS UNDER REVIEW

2021 "SMART Cancer Care Teams: Enhancing EHR Communication to Improve Interprofessional Teamwork." Agency: National Institutes of Health (R01). GRANT13479659. Principal Investigator: S.-P. Tu, UC Davis. Date submitted: 2021.10.06.

- Wrote one of the three aims, including the background, preliminary study, and research plan, where we will develop machine-learning-assisted visual analytics tools to characterize multi-team systems of healthcare professionals and predict patients with HER communication structures associated with poor quality outcomes.

2021 "Smart EHR Data Analytics to Enhance Cancer Care Multiteam Systems." Agency: National Science Foundation/National Institutes of Health (SCH). No.: 2124425. Principal Investigator: K.-L. Ma, UC Davis. Co-Principal Investigator: S.-P Tu, UC Davis. Date submitted: 2021.02.16.

- Wrote the majority of the research plan, where we will develop graph neural network-based machine learning techniques and design an interactive visual analytics tool that supports what-if and predictive analyses to optimize communication among healthcare professionals.

CONTRIBUTION TO FUNDED GRANTS

2021 "NSF Convergence Accelerator—Track D: Data-driven disease control and prevention in veterinary health (Phase 2)." Agency: National Science Foundation. No.: 2134901. Principal Investigator: B. M. Lopez, UC Davis. Co-Principal Investigator: X. Liu, UC Davis; M. Clavijo, ISU; K. Zhang, CMU.

- Wrote a part of the research plan related to visual analytics.

2019 "A Visual Analytics Framework for Analysis, Presentation, and Prognostics of Machine Maintenance Logs." Agency: National Institute of Standards and Technology. No.: 2019-NIST-MSE-01. Principal Investigator: K.-L. Ma, UC Davis.

- Assisted to describe the detailed development plan. The project result was published in *Proc. IEEE PacificVis 2021*. <https://drive.google.com/file/d/1i3NIptxfiLhD2TYkYqUsIDRvMzMOfO1/view?usp=sharing>

FELLOWSHIPS, SCHOLARSHIPS

2015 Department fellowship from University of California, Davis

2011 Grants-in-Aid for scientific research from Japan Society for the Promotion of Science

- Research on "Urban Reformation Program for Realization of Bright Low Carbon Society", a national project of FY2011 Strategic Funds for the Promotion of Science Technology

2009 - 2011 Exempted payment by good academic performance from Japan Students Services Organizations for interest-free student loan

PUBLICATIONS

PREPRINT, UNDER REVIEW

- 2021 Y.-H. Kuo, T. Fujiwara, C. C.-K. Chou, and K.-L. Ma. "Visual Analytics of Air Pollution Data with Machine-Learning-Aided Analysis Workflows." Manuscript submitted for *IEEE PacificVis 2022*.
- 2021 Y. Li, J. Wang T. Fujiwara, and K.-L. Ma. "A Visual Analytics Approach to Understanding Adversarial Attacks on Convolutional Neural Networks." Manuscript submitted for *IEEE PacificVis 2022*.
- 2020 T. Fujiwara* and T.-P. Liu* (*equally contributed). "Contrastive Multiple Component Analysis (cMCA): Applying the Contrastive Learning Method to Identify Political Subgroups." *arXiv:2007.04540* (manuscript submitted for *the Journal of Politics*). <https://arxiv.org/abs/2007.04540>
- 2020 T. Fujiwara, J. Zhao, F. Chen, Y. Yu, and K.-L. Ma. "Interpretable Contrastive Learning for Networks." *arXiv:2005.12419* (manuscript submitted for *Journal of Data Science, Statistics, and Visualisation*). <https://arxiv.org/abs/2005.12419>
- 2020 Shilpika, T. Fujiwara, N. Sakamoto, J. Nonaka, and K.-L. Ma. "A Visual Analytics Approach to Monitor Time-Series Data with Incremental and Progressive Functional Data Analysis." *arXiv: 2011.13079* (manuscript submitted for *IEEE PacificVis 2022*). <https://arxiv.org/abs/2011.13079>
- 2020 C. Xu, T. Neuroth, T. Fujiwara, R. Liang, and K.-L. Ma. "A Predictive Visual Analytics System for Studying Neurodegenerative Disease based on DTI Fiber Tracts." *arXiv:2005.12419* (manuscript submitted for *IEEE Transactions on Visualization and Computer Graphics*). <https://arxiv.org/abs/2010.07047>

JOURNAL

- 2021 T. Fujiwara, X. Wei, J. Zhao, and K.-L. Ma. "Interactive Dimensionality Reduction for Comparative Analysis." *IEEE Transactions on Visualization and Computer Graphics* (also *proc. IEEE VIS 2021*), forthcoming. <https://arxiv.org/abs/2106.15481>
- 2021 T. Fujiwara, Shilpika, N. Sakamoto, J. Nonaka, K. Yamamoto, and K.-L. Ma. "A Visual Analytics Framework for Reviewing Multivariate Time-Series Data with Dimensionality Reduction." *IEEE Transactions on Visualization and Computer Graphics* (also *proc. IEEE VIS 2020 (VAST)*), Vol. 27, No. 2, pp. 1601-1611, 2021. <https://arxiv.org/abs/2008.01645>
- 2020 Y. Li, T. Fujiwara, Y. K. Choi, K. K. Kim, and K.-L. Ma. "A Visual Analytics System for Multi-model Comparison on Clinical Data Predictions." *Journal of Visual Informatics* (also *proc. PacificVis 2020 Visualization Meets AI Workshop*), Vol. 4, No.2, pp. 122-131, 2020. <https://arxiv.org/abs/2002.10998>
- 2020 R. Guo, T. Fujiwara, Y. Li, K. M. Lima, S. Sen, N. K. Tran, and K.-L. Ma. "Comparative Visual Analytics for Assessing Medical Records with Sequence Embedding." *Journal of Visual Informatics* (also *proc. PacificVis 2020 Visualization Meets AI Workshop*), Vol. 4, No. 2, pp. 72- 85, 2020. <https://arxiv.org/abs/2002.08356>
- 2020 T. Fujiwara, O.-H. Kwon, and K.-L. Ma. "Supporting Analysis of Dimensionality Reduction Results with Contrastive Learning." *IEEE Transactions on Visualization and Computer Graphics* (also *proc. IEEE VIS 2019 (VAST)*), Vol. 26, No. 1, pp. 45-55, 2020. **[Best Paper Honorable Mention]**. <https://arxiv.org/abs/1905.03911>
- 2020 T. Fujiwara, J.-K. Chou, Shilpika, P. Xu, L. Ren, and K.-L. Ma. "An Incremental Dimensionality Reduction Method for Visualizing Streaming Multidimensional Data." *IEEE Transactions on Visualization and Computer Graphics* (also *proc. IEEE VIS 2019 (InfoVis)*), Vol. 26, No.1, pp. 418-428, 2020. <https://arxiv.org/abs/1905.04000>
- 2018 T. Fujiwara, T. Crnovrsanin, and K.-L. Ma. "Concise Provenance of Interactive Network Analysis." *Journal of Visual Informatics*, Vol.2, No. 4, pp. 213-224, 2018. <https://doi.org/10.1016/j.visinf.2018.12.002>
- 2018 T. Fujiwara, J. K. Li, M. Mubarak, C. Ross, C. D. Carothers, R. B. Ross, and K.-L. Ma. "A Visual Analytics System for Optimizing the Performance of Large-scale Networks in Supercomputing

Systems.” *Journal of Visual Informatics* (also proc. *PacificVAST*), Vol. 2, No.1, pp. 98-110, 2018. <https://doi.org/10.1016/j.visinf.2018.04.010>

- 2015 G. Hashimoto, T. Fujiwara, M. Suzuki, H. Okuda, J. Ise, and M. Sioya. “Multi-Agent-Based Simulation of Knowledge Propagation in Organizations.” *Electronics and Communications in Japan*, Vol. 98, No.7, pp. 22–33, 2015. <http://onlinelibrary.wiley.com/doi/10.1002/ecj.11685/abstract>
- 2011 T. Fujiwara, M. Iwamaru, M. Tange, S. Someya, and K. Okamoto. “A Fractal-Based 2D Expansion Method for Multi-scale Volume Data Visualization.” *Journal of Visualization*, Vol.14, No. 2, pp.171-190, 2011. <https://drive.google.com/file/d/0B59ss1whXM4kR21WbDMtYTdOc28/view>

REFERREED FULL-LENGTH CONFERENCE PAPERS

- 2021 K. Fujita, N. Sakamoto, T. Fujiwara, J. Nonaka, and T. Tsukamoto. “A Visual Analytics Method for Time-Series Log Data Using Multiple Dimensionality Reduction.” In *Proc. AsiaSim*, 2021 (forthcoming). <https://drive.google.com/file/d/1dHSxSIAiHoHxev95Ue74YndcSZsVTV6x/view?usp=sharing>
- 2021 X. Zhang, T. Fujiwara, S. Chandrasegaran, M. P. Brundage, T. Sexton, A. Dima, and K.-L. Ma. “A Visual Analytics Approach for the Diagnosis of Heterogeneous and Multidimensional Machine Maintenance Data.” In *Proc. IEEE PacificVis*, pp. 186-195, 2021. <https://drive.google.com/file/d/1i3NlptxfilHd2TYkYqUsIDRvMzMOFOi1>
- 2020 T. Fujiwara, J. Zhao, F. Chen, and K.-L. Ma. “A Visual Analytics Framework for Contrastive Network Analysis.” In *Proc. IEEE VAST*, pp. 48-59, 2020. <https://arxiv.org/abs/2008.00151>
- 2020 S. P. Kesavan, T. Fujiwara, J. K. Li, C. Ross, M. Mubarak, C. D. Carothers, R. B. Ross, and K.-L. Ma. “A Visual Analytics Framework for Reviewing Streaming Performance Data.” In *Proc. IEEE PacificVis*, pp. 206-215, 2020. <https://arxiv.org/abs/2001.09399>
- 2019 J. K. Li, T. Fujiwara, S. P. Kesavan, C. Ross, M. Mubarak, C. D. Carothers, R. B. Ross, and K.-L. Ma. “A Visual Analytics Framework for Analyzing Parallel and Distributed Computing Applications.” In *Proc. VDS*, 2019. https://drive.google.com/open?id=1_pv-5ISIV99GhdyJxMXViCeURbxs4nk7
- 2017 T. Fujiwara, P. Malakar, K. Reda, V. Vishwanath, M. E. Papka, and K.-L. Ma. “A Visual Analytics System for Optimizing Communications in Massively Parallel Applications.” In *Proc. IEEE VAST*, pp. 59-70, 2017. <https://drive.google.com/open?id=0B59ss1whXM4kNIF0Y25wMEZMckk>
- 2017 G. Kato, T. Fujiwara, C. Collet, T. Kobayashi, and T. Suzuki. “Threatening Event, National Identity and Network Dynamics of Motivated Information Processing: Exploring Japanese Twitter during the Rise of Territorial Disputes, April through October 2012.” In *Proc. the 113th APSA Annual Meeting*. <https://drive.google.com/open?id=0B59ss1whXM4kLXIUSTIvQTVwbGs>
- 2017 T. Fujiwara, J.-K. Chou, A. M. McCullough, C. Ranganath, and K.-L. Ma. “A Visual Analytics System for Brain Functional Connectivity Comparison across Individuals, Groups, and Time Points.” In *Proc. IEEE PacificVis*, pp. 250-259, 2017. <https://drive.google.com/file/d/0B59ss1whXM4kZWFIQk82Y1FNZ0k>
- 2010 T. Fujiwara, R. Matsushita, M. Iwamaru, M. Tange, S. Someya, and K. Okamoto. “Fractal Map: Fractal-Based 2D Expansion Method for Multi-Scale High-Dimensional Data Visualization.” In *Proc. ISVC*, Vol. 1, pp. 306-315, 2010. <https://drive.google.com/file/d/0B59ss1whXM4kZm90T1FiZTJVNIIE>

REFERREED SHORT-LENGTH CONFERENCE PAPERS

- 2021 Y. Li, E. Musabandesu, T. Fujiwara, F. J. Loge, and K.-L. Ma. “A Visual Analytics System for Water Distribution System Optimization.” In *Proc. IEEE VIS*, forthcoming. <https://arxiv.org/abs/2108.12540>
- 2018 K. Dasu, T. Fujiwara, and K.-L. Ma. “An Organic Visual Metaphor for Public Understanding of Conditional Co-occurrences.” In *Proc. IEEE SciVis*, pp. 1-5, 2018. <https://drive.google.com/open?id=1n1lgnzjuVEGMRT4Q8496WhHtoGa7THmp>
- 2017 Y.-J. Huang, T. Fujiwara, Y.-X. Lin, W.-C. Lin, and K.-L. Ma. “A Gesture System for Graph Visualization in Virtual Reality Environments.” In *Proc. PacificVis*, pp. 41-45, 2017. <https://drive.google.com/file/d/0B59ss1whXM4kMEJtQXpsdVlxMm8>

OTHERS

- 2022 T. Liu and T. Fujiwara. “Contrastive Multiple Correspondence Analysis (cMCA): Using Contrastive Learning to Identify Latent Subgroups in Political Parties.” In *Proc. MPSA* (Paper Session), Chicago, forthcoming.

- 2021 K. Fujita, N. Sakamoto, T. Fujiwara, J. Nonaka, and T. Tsukamoto. "A Visual Analytics Method for Time-series Log Data Using Multiple Dimensionality Reduction." *Journal of the Visualization Society of Japan*, 2021.
- 2020 T. Liu and T. Fujiwara. "Contrastive Multiple Component Analysis (cMCA): Applying the Contrastive Learning Method to Identify Political Subgroups." In *Proc. PolMeth* (Poster Session), 2020, Virtual Conference.
- 2010 T. Fujiwara, M. Tange, S. Someya, and K. Okamoto. "A Dimensional Reduction Visualization Method Using Fractal Shapes for Time-Varying Volume Data." *Journal of the Visualization Society of Japan*, Vol. 30, Suppl. 1, pp.283-284, 2010.
- 2009 T. Fujiwara, M. Tange, S. Someya, and K. Okamoto. "A 2D Expansion Method Using Fractal Shapes for High Dimensional Data." *Journal of the Visualization Society of Japan*, Vol. 29, Suppl. 2, pp.319-320, 2009.
- 2009 M. Suzuki, T. Fujiwara, and H. Okuda. "Agent-Based Modeling of Knowledge Propagation in Organizations", In *Proc. Computational Mechanics Conference*, Vol. 22, No.1805, 2009.

TALKS

INVITED TALKS

- 2021.08.27 "Comparative Analysis with Intelligent Visual Interfaces." Seminar for the Division for Media and Information Technology, Dep. of Science and Technology at Linköping University (virtual).
- 2021.07.08 "High-dimensional Data Comparison with Intelligent Visual Interfaces." *DSSV-ECDA*, Rotterdam, the Netherlands (virtual). https://www.youtube.com/watch?v=uopQqTmz_g
- 2021.05.05 "Comparative Analysis with Intelligent Visual Interfaces." *The Department of Management Sciences Seminar Series*, the Faculty of Engineering at University of Waterloo (virtual).
- 2021.04.22 "A Visual Analytics Framework for Contrastive Network Analysis." Pacific Northwest National Laboratory, Richland, Washington (virtual).
- 2021.02.09 "A Visual Analytics Framework for Multi-aspect Network Comparison." The Institute of Social Sciences of the Academia Sinica, Taipei, Taiwan (virtual).
- 2019.09.11 "Brain Network comparison." The Orientation for *AvenueE* Students, University of California, Davis.
- 2019.04.05 "Visual Analytics Methods for Multidimensional Data in Network Applications." FX Palo Alto Laboratory, Palo Alto, California.
- 2018.10.05 "An Incremental Dimensionality Reduction Method for Visualizing Streaming Multidimensional Data." *BayVAST: Bay Area Visual Analytics Symposium*, Sunnyvale, California.
- 2018.07.17 "A Visual Analytics System for Optimizing the Performance of Large-Scale Networks in Supercomputing Systems." *Summer of CODES Workshop*, Lemont, Illinois.
- 2018.05.05 "Network Visualization." *STEM for Girls*, University of California, Davis.
- 2009.10.21 "2D-3D Interaction Visualization Using Fractal Shape." *Swedish Visualization Delegation to Japan*, University of Tokyo Kashiwa Campus (hosted by Embassy of Sweden in Tokyo).
- 2009.08.06 "2D and 3D Interface Using Fractal Shape." Nintendo Headquarters, Kyoto, Japan.

CONFERENCE PRESENTATIONS

- 2021.10.27 "Interactive Dimensionality Reduction for Comparative Analysis." *IEEE VIS*, Virtual Conference. <https://youtu.be/12u1vIDQQpE>
- 2021.10.25 "Approaches and Challenges in Visual Analytics of Streaming High-dimensional Data." *IEEE Lдав Early Career Researcher Lightning Talks*, Virtual Conference. <https://drive.google.com/drive/folders/1qLYa3W6LxwsRdfBEbjc1p8m3QxPoCrRW>
- 2020.10.29 "A Visual Analytics Framework for Contrastive Network Analysis." *IEEE VIS*, Virtual Conference. <https://youtu.be/hLHMiQpFFbw>
- 2020.10.28 "A Visual Analytics Framework for Reviewing Multivariate Time-Series Data with Dimensionality Reduction." *IEEE VIS*, Virtual Conference. <https://youtu.be/zV4gChjroY0>

- 2019.10.23 "An Incremental Dimensionality Reduction Method for Visualizing Streaming Multidimensional Data." *IEEE VIS*, Vancouver, BC. <https://vimeo.com/371267332>
- 2019.10.22 "Supporting Analysis of Dimensionality Reduction Results with Contrastive Learning." *IEEE VIS*, Vancouver, BC. <https://vimeo.com/368441312>
- 2018.04.10 "A Visual Analytics System for Optimizing the Performance of Large-scale Networks in Supercomputing Systems." *PacificVAST*, Kobe, Japan.
- 2017.10.05 "A Visual Analytics System for Optimizing Communications in Massively Parallel Applications." *IEEE VIS*, Phoenix, AZ. <https://vimeo.com/238502779>
- 2017.04.21 "A Visual Analytics System for Brain Functional Connectivity Comparison across Individuals, Groups, and Time Points." *IEEE PacificVis*, Seoul, Korea.
- 2010.11.29 "Fractal Map: Fractal-Based 2D Expansion Method for Multi-Scale High-Dimensional Data Visualization." *ISVC*, Las Vegas, NV.
- 2010.07.21 "A Dimensional Reduction Visualization Method Using Fractal Shapes for Time-Varying Volume Data." *Visualization Society of Japan*, Tokyo, Japan.
- 2009.10.25 "A 2D Expansion Method Using Fractal Shapes for High Dimensional Data." *Visualization Society of Japan*, Yamagata, Japan.

GUEST LECTURES

- 2021.02.11 "Visual Analytics of High Dimensional Data." University of California, Davis. ECS 272 Information Visualization (graduate course), taught by Dr. Kwan-Liu Ma.
- 2021.02.11 "Visual Analytics of High Dimensional Data." University of California, Davis. ECS 163 Information Interface (undergraduate course), taught by Dr. Kwan-Liu Ma.
- 2010.04.19 "Using Fractal Shapes to Project 3D Objects onto 2D Space." University of Tokyo Komaba Campus. Mathematical and Information Sciences (undergraduate course on visualization), taught by Dr. Koji Okamoto.

PATENTS

- 2021 T. Fujiwara, J. Zhao, and F. Chen. "System and Method for Contrastive Network Analysis and Visualization." US 2021/0233607 A1 (US).
<https://patentimages.storage.googleapis.com/41/9c/2c/b5c02d8a23a560/US20210233607A1.pdf>
- 2011 T. Fujiwara, M. Iwamaru, and K. Okamoto. "A High-Dimensional Data Visualization Apparatus, Method, and Program." Patent Application Publication 2011-86065 (Japan).
<https://www.j-platpat.inpit.go.jp/c1800/PU/JP-2011-086065/4884842630B7900E81243CB9D2E98649B34AEB830F32532B68B9C00E3E318905/11/en>

SELECTED MEDIA COVERAGE

- 2021.11 T.-M. Rhyne and G. Hattab, "A Snapshot of IEEE VIS 2021." *ACM SIGGRAPH Blog*.
<https://blog.siggraph.org/2021/11/a-snapshot-view-of-ieee-vis-2021.html/>
- 2021.07 D. Gutierrez. "Best of arXiv.org for AI, Machine Learning, and Deep Learning – June 2021." *insideBIGDATA*.
<https://insidebigdata.com/2021/07/19/best-of-arxiv-org-for-ai-machine-learning-and-deep-learning-june-2021/>
- 2020.06 G. Li, et al. "Big Data Visualization and Analytics: Future Research Challenges and Emerging Applications—Part 2." *ACM SIGMOD Blog*. <https://wp.sigmod.org/?p=3123>

ACADEMIC SERVICES

ORGANIZING COMMITTEES

- **Co-Chair:** PacificVis 2022 Workshop on Visualization Meets AI (present)
- **Co-Chair:** PacificVis 2021 Workshop on Visualization Meets AI

PROGRAM COMMITTEE PARTICIPATION

- IEEE VIS 2021 Short Papers Track

INVITED CONFERENCE REVIEWER

- IEEE Big Data: 2017 – 2021
- IEEE VIS (VAST, InfoVis, Short Papers): 2019 – 2021
- EG/VGTC EuroVis: 2020
- IEEE PacificVis: 2021, 2022
- ACM CHI: 2021

INVITED JOURNAL REVIEWER

- ACM Transactions on Graphics
- ACM Transactions on Interactive Intelligent Systems
- Computers & Graphics
- Geocarto International
- Geo-spatial Information Science
- Human-centric Computing and Information Sciences
- IEEE Computer Graphics and Applications
- IEEE Transactions on Visualization and Computer Graphics
- Information Sciences
- Pattern Recognition
- Patterns (Cell Press)

TEACHING EXPERIENCES

- 2020 **TEACHING ASSISTANT, UNIVERSITY OF CALIFORNIA, DAVIS** California
- ECS 289H Visual Analytics (graduate course, Fall 2020).
Co-lectured with Dr. Kwan-Liu Ma (responsible for 50% of the lectures; lectured topics include visual analytics pipeline, interaction design, visual analytics of high-dimensional data, geospatial data, and time-series data), designed course materials, evaluated course assignments, and held office hours.
- 2009 - 2011 **TEACHING ASSISTANT, UNIVERSITY OF TOKYO** Tokyo
- Teaching assistant for two undergraduate courses (Scientific Computer Graphics and Advanced Project for Simulation).
 - Co-lectured with Dr. Koji Okamoto (lectured topics include methods for scientific visualization, methods for information visualization of web data, and the state-of-the-art technologies).
 - Supported students to implement programs and understand general computer science and simulation concepts.

STUDENT SUPERVISION

MENTORING

- 2021.11-Present Hsiao-Ying Lu, Ph. D. Student, University of California, Davis, USA
- 2021.01-2021.04 Shidi Yu, Master Student, University of California, Davis, USA
- 2020.09-2021.03 Xinhai Wei, Undergraduate Student, University of Waterloo, Canada
(now software developer at Wish)
- 2020.01-2021.01 Xiaoyu Zhang, Ph. D. Student, University of California, Davis, USA
- 2019.12-Present Yun-Hsin Kuo, Ph. D. Student, University of California, Davis, USA
- 2019.06-2020.03 Rongchen Guo, Undergraduate Student, Beihang University, Beijing, China
(now MS Student at University of Ottawa)
- 2019.04-Present Yiran Li, Ph. D. Student, University of California, Davis, USA
- 2019.01-2020.01 Suraj P. Kesavan, Ph. D. Student, University of California, Davis, USA
- 2017.11-2018.07 Keshav Dasu, Ph. D. Student, University of California, Davis, USA
- 2017.11-2018.04 Sandra Bae, Master Student, University of California, Davis, USA
(now Ph. D. Student at University of Colorado Boulder)
- 2010.04-2011.03 Ryo Matsushita, Master Student, University of Tokyo, Japan
(now project manager at Mitsui & Co.)

CERTIFICATIONS IN JAPAN

2012 Information Security Specialist
(Skill Level 4 (highest) in Japan Information-Technology Engineers Examination)

2011 Associate Professional Engineer in Information Engineering

2009 Applied Information Technology Engineer

SKILLS

Computer C++, Python, JavaScript, R, Common Lisp, HTML, OpenGL, WebGL, D3, Qt, Unix/Linux

Languages English (fluent), Japanese (native)

GRADUATE COURSEWORK

COMPUTER SCIENCE, UNIVERSITY OF CALIFORNIA, DAVIS

Machine Learning, Network Theory, Analysis of Algorithms, Software Engineering,
Information Visualization, Advanced Visualization