

Academic Appointment

- 2022 – **Postdoctoral Fellow**, MU Collective Lab, Northwestern University
Mentor: Matthew Kay
CRA/CCC NSF-funded Computing Innovation Fellows (CIFellows) Program

Education

- 2021 **Ph.D. in Computer Science**, Brown University
Committee: David H. Laidlaw (advisor), James Tompkin, Jeff Huang, David Badre
Dissertation: Fusing Visualization, Virtual Reality, and Vision Science for Scientific Thinking
- 2016 **M.Sc. in Computer Science**, Tufts University
Advisor: Remco Chang
- 2013 **B.Eng. in Computer Science and Technology**, Shandong University
Advisor: Zhifang Jiang

Awards and Honors

Papers and Dissertations

- 2023 **Best Paper Award** for "Swaying ..." (P12) as first author, IEEE VIS
- 2023 **Best Paper Honorable Mention Award** for "Subjective ..." (P10) as first author, ACM CHI
- 2021 **Best Paper Honorable Mention Award** for "Rethinking ..." (P7) as co-first author, IEEE VIS
- 2020 **Best Paper Honorable Mention Award** for "How Do ..." (P4) as first author, ACM IUI
- 2014 **Best Undergraduate Dissertation of the Province**, Ministry of Education Shandong

Fellowships and Scholarships

- 2022 **Computing Innovation Fellows (CIFellows)**, CRA/CCC/NSF, ~\$310,000
- 2017 **Kanellakis Fellowship**, Brown University, tuition and stipend for one year
- 2011 **Student Scholarship**, Shandong University, ¥3,000 (~\$400)
- 2010 **National Scholarship**, Ministry of Education China, ¥8,000 (~\$1,100)

Other Activities

- 2022 – 2024 **Special Recognitions for Outstanding Reviews** (five), ACM CHI
- 2023 **Special Recognitions for Outstanding Reviews**, IEEE VIS

Publications

Peer-reviewed Full-length Conference and Journal Articles

- 2023  P12 **Swaying the Public? Impacts of Election Forecast Visualizations on Emotion, Trust, and Intention in the 2022 U.S. Midterms** [DOI](#)
Fumeng Yang, Mandi Cai, Chloe Mortenson, Hoda Fakhari, Ayse D. Lokmanoglu, Jessica Hullman, Steven Franconeri, Nicholas Diakopoulos, Erik C. Nisbet, Matthew Kay
IEEE Transactions on Visualization and Computer Graphics (TVCG)
Proceedings of IEEE Visualization and Visual Analytics Conference (VIS)
[Best Paper Award \(top 1%\)](#)
- 2023 P11 **Adaptive Assessment of Visualization Literacy** [DOI](#)
Yuan Cui, Lily W. Ge, Yiren Ding, **Fumeng Yang**, Lane Harrison, Matthew Kay
IEEE Transactions on Visualization and Computer Graphics (TVCG)
Proceedings of IEEE Visualization and Visual Analytics Conference (VIS)
- 2023  P10 **Subjective Probability Correction for Uncertainty Representations** [DOI](#)
Fumeng Yang, Maryam Hedayati, Matthew Kay
Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
[Honorable Mention Award \(top 5%\)](#)
- 2023 P9 **How Can Deep Neural Networks Aid Visualization Perception Research?** [DOI](#)
Fumeng Yang, Yuxin Ma, Lane Harrison, James Tompkin, David H. Laidlaw
Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
- 2022 P8 **Visual Cue Effects on a Classification Accuracy Estimation Task in Immersive Scatterplots** [DOI](#)
Fumeng Yang, James Tompkin, Lane Harrison, David H. Laidlaw
IEEE Transactions on Visualization and Computer Graphics (TVCG)
- 2021  P7 **Rethinking the Ranks of Visual Channels** [DOI](#)
Caitlyn M. McColeman*, **Fumeng Yang***, Timothy F. Brady, Steven Franconeri
IEEE Transactions on Visualization and Computer Graphics (TVCG)
Proceedings of IEEE Visualization and Visual Analytics Conference (VIS)
[Honorable Mention Award \(top 5%\)](#) * equal contribution
- 2020 P6 **Revealing Perceptual Proxies with Adversarial Examples** [DOI](#)
Brian D. Ondov, **Fumeng Yang**, Matthew Kay, Niklas Elmqvist, Steven Franconeri
IEEE Transactions on Visualization and Computer Graphics (TVCG)
Proceedings of the IEEE Visualization and Visual Analytics Conference (VIS)
- 2020 P5 **A Virtual Reality Memory Palace Variant Aids Knowledge Retrieval from Scholarly Articles** [DOI](#)
Fumeng Yang, Jing Qian, Johannes Novotny, David Badre, Cullen D. Jackson, David H. Laidlaw
IEEE Transactions on Visualization and Computer Graphics (TVCG)
- 2020  P4 **How Do Visual Explanations Foster End Users' Appropriate Trust in Machine Learning?** [DOI](#)
Fumeng Yang, Zhuanyi Huang, Jean Scholtz, Dustin L. Arendt
Proceedings of the ACM Conference on Intelligent User Interfaces (IUI)
[Honorable Mention Award \(top 1%\)](#)

- 2018 P3 **Remotion: A Motion-Based Capture and Replay Platform of Mobile Device Interaction for Remote Usability Testing** [DOI](#)
Jing Qian, Arielle Chapin, Alexandra Papoutsaki, **Fumeng Yang**, Klaas Nelissen, Jeff Huang
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp)
- 2018 P2 **Correlation Judgment and Visualization Features: A Comparative Study** [DOI](#)
Fumeng Yang, Lane Harrison, Ronald A. Rensink, Steven Franconeri, Remco Chang
IEEE Transactions on Visualization and Computer Graphics (TVCG)
- 2014 P1 **Ranking Visualizations of Correlation Using Weber's Law** [DOI](#)
Lane Harrison, **Fumeng Yang**, Steven Franconeri, Remco Chang
IEEE Transactions on Visualization and Computer Graphics (TVCG)
Proceedings of the IEEE Visualization and Visual Analytics Conference (VIS)

Preprints and Manuscripts

- 2023 M2 **A Comparative Study on Visualizations of Scheduled Event Sequences: Gantt, Extended Gantt, and Stringline Charts**
Junxiu Tang, **Fumeng Yang**, Jiang Wu, Yifang Wang, Jiayi Zhou, Xiwen Cai, Lingyun Yu, Yingcai Wu
under review
- 2022 M1 **OH! An Overlapped Histogram Visualization**
Yuke Ding, Yihao Wang, **Fumeng Yang**, Natalia Andrienko, Gennady Andrienko, Siming Chen

Lightly-Reviewed and Invited Articles

- 2020 L3 **Portalware: A Smartphone-Wearable Dual-Display System for Expanding the Free-Hand Interaction Region in Augmented Reality** [DOI](#)
Jing Qian, Meredith Young-Ng, Xiangyu Li, Angel Cheung, **Fumeng Yang**, Jeff Huang
Proceedings of the Extended Abstracts on Human Factors in Computing Systems (CHI LBW)
- 2018 L2 **Crush Your Data with ViC2ES then CHISSL Away** [DOI](#)
Dustin L. Arendt, Lyndsey Franklin, **Fumeng Yang**, Brooke Brisbois, Ryan LaMothe
Proceedings of the IEEE Symposium on Visualization for Cyber Security (VizSec)
- 2016 L1 **From Vision Science to Data Science: Applying Perception to Problems in Big Data** [DOI](#)
Remco Chang, **Fumeng Yang**, Marianne Procopio
Human Vision and Electronic Imaging (HVEI)

Research Experience

- 2016 – 2021 **Graduate Research Assistant**, Brown Visual Computing, Brown University
Advisor: David H. Laidlaw
Explored perception and scientific thinking in virtual reality (P5, P8, P9)
- 2018 **Ph.D. Internship**, Visual Analytics Group, Pacific Northwest National Laboratory
Mentor: Dustin L. Arendt
Investigated trust in machine learning and security systems (P4, L2)

- 2013 – 2016 **Graduate Research Assistant**, Visual Analytics Laboratory, Tufts University
 Advisor: Remco Chang
 Modeled correlation perception in bivariate visualizations (P1, P2, L1)
- 2012 **Undergraduate Research Assistant**, Research Center of HCI & VR, Shandong University
 Advisor: Zhifang Jiang
 Visualized real-time air quality data of Shandong Province

Teaching

Conference Courses

- 2022, 2023 **Transparent Practices for Quantitative Empirical Research**
 Co-instructors: Chat Wacharamanatham, Abhraneel Sarma, Xiaoying Pu, Lace Padilla, Maryam Hedayati. This is a lecture series with rolling instructors. Attendees: 22, 6, 8
 ACM CHI (2022 online, 2023 hybrid); IEEE VIS (2023 in-person)

Guest Lectures

- 2023 **The Future Is Not Set: Making Appropriate Decisions with Uncertainty Visualizations**, Georgia Institute of Technology
 Professor: Yalong Yang. Students: ~65
 CS 4460: Introduction to Information Visualization
- 2022 **Interaction and Animation (and its lab session)**, Northwestern University
 Professor: Matthew Kay. Students: 38, 55 (twice)
 comp_sci 333: Interactive Information Visualization

Teaching Assistantship

- 2020, 2018 **csci2370: Interdisciplinary Scientific Visualization**, Brown University
 Instructor: David H. Laidlaw. Students: 4, 4 (twice)
 Provided feedback on student projects and reports; helped design the course syllabus
- 2019 **csci1951a: Data Science**, Brown University
 Instructor: Ellie Pavlick. Students: 203
 Maintained the course website; contributed to course materials
- 2016, 2015 **comp160: Algorithms**, Tufts University
 Instructor: Greg Aloupis. Students: 82, 111 (twice)
 Graded assignments; held office hours
- 2015, 2014 **comp150VIZ: Visualization**, Tufts University
 Instructors: Remco Chang, Lane Harrison. Students: 33, 60 (twice)
 Head TA; designed 9 labs and 5 assignments
- 2014, 2013 **comp40: Machine Structure and Assembly-Language Programming**, Tufts University
 Instructors: Noah Mendelsohn, Mark Sheldon. Students: 98, 91 (twice)
 Head TA; maintained and upgraded the grading systems

Teaching Certification

- 2021 **Certificate I: Sheridan Teaching Seminar - Reflective Teaching**, Brown University
Completed four seminars on teaching skills; gave two short lectures and obtained feedback

Mentoring

Northwestern University

- 2022 – **Yuan Cui**, Ph.D. student, co-mentored with Matthew Kay for "Adaptive ..." (P11)
2022 – 2023 **Mandi Cai**, Ph.D. student, co-mentored with Matthew Kay for "Swaying ..." (P12)
2022 – 2023 **Maryam Hedayati**, Ph.D. student, sub-mentored with Matthew Kay for "Subjective ..." (P10)

Brown University

- 2019 – 2020 **Peer Mentor**, advised students on applying for graduate schools or starting their Ph.D.
2017 **Zachary Dixon**, undergraduate, worked on a summer project to create data cubes in VR

Other Institutions

- 2022 – **Junxiu Tang**, Ph.D. student at Zhejiang University, advised on "A Comparative ..." (M2)
2021 – 2022 **Yuke Ding**, undergraduate at Fudan University, advised on "OH! ..." (M1)
2021 – 2022 **Yihao Wang**, undergraduate at Fudan University, advised on "OH! ..." (M1)
2009 – 2011 **Academic Peer Mentor**, Shandong University, moderated between faculty and students

Professional Service

Program Committees

- 2024 The ACM CHI Conference on Human Factors in Computing Systems (CHI), Associate Chair
2023 Eurographics Conference on Visualization (EuroVis), short papers
2022 – 2023 IEEE Visualization and Visual Analytics Conference (VIS), short papers
2020 – 2021 International Symposium on Visual Computing (ISVC)

Paper Reviews

- 2023 Workshop on Novel Directions in Vision Science and Visualization Research (VisXVision)
2023 International Journal of Human-Computer Studies (IJHCS)
2022 Visual Informatics (VISINF)
2022 Workshop on TRust and EXpertise in Visualization (TRES VIS)
2022 The ACM Special Interest Group on Computer Graphics (SIGGRAPH), posters
2021, 2023 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)
2019, 2021 Eurographics Conference on Visualization (EuroVis)
2020, 2022 Experimental Psychology (EXPPSY)
2020 Advances in Cognitive Psychology (ACP)
2019 – 2023 IEEE Transactions on Visualization and Computer Graphics (TVCG)

- 2019 Journal of Visual Communication and Image Representation (JVCI)
- 2019 – 2023 The ACM CHI Conference on Human Factors in Computing Systems (CHI)
- 2018 – 2023 IEEE Visualization and Visual Analytics Conference (VIS)
- 2018, 2021 China Visualization Conference (ChinaVis)

Organizing Committees

- 2017 – 2020 **Student Volunteer Chairs:** IEEE Visualization and Visual Analytics Conference (VIS)
Co-chairs: Timothy Luciani, Tim Gerrits, Bon A. Adriel, John Wenskovitch, Thomas Torsney-Weir
SVs/Applicants: 42/143, 43/181, 46/55 (three times)

Student Volunteers

- 2019 **Student Volunteer:** ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)
- 2014 – 2017 **Student Volunteer (2014), Student Volunteer Supervisor (2015), Day Captain (2017):** IEEE Visualization and Visual Analytics Conference (VIS)

Invited Talks and Panels

- 2022 **IEEE VIS Student Volunteer Mentorship Session** (remote)
IEEE Visualization and Visual Analytics Conference (VIS)
- 2022 **More is Worse? Avoiding Pitfalls in Reporting a User Study** (in Chinese)
Graphics And Mixed Environment Symposium (GAMES) Webinar Series
- 2021 **How Do Visual Explanations Foster End Users' Appropriate Trust in Machine Learning?**
University of Massachusetts, Dartmouth