Jieqiong Zhao

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EDUCATION

06/2013-05/2020	**Ph.D.** in Electrical and Computer Engineering	Purdue University, West Lafayette, IN, USA
	Advisor: David S. Ebert	
	Thesis title: Visual analytics for decision making in performance evaluation	
09/2011-05/2013	**M.S.** in Computer Science	Tufts University, Medford, MA, USA
	Advisor: Remco Chang	
	Master project: Modeling user interactions for complex visual search tasks	
09/2010-06/2011	**M.S. Candidate** in Computer Science & Technology	Zhejiang University of Technology, China
09/2006-06/2010	**Bachelor of Engineering** in Software Engineering	
	Thesis title: Natural scene construction and rendering of rain and snow	

PROFESSIONAL EXPERIENCE

08/2023-present	Augusta University	Augusta, GA, USA
	Tenure-Track Assistant Professor	
	School of Computer and Cyber Sciences	
07/2020-06/2023	Arizona State University, VADER Lab	Tempe, AZ, USA
	Postdoc Research Associate with Dr. Ross Maciejewski	
	School of Computing and Augmented Intelligence	

HONORS AND AWARDS

2020	Award for Effectively Transforming Task Decomposition into Conceptual Design of VAST Challenge, IEEE
2015	Honorable Mention for Compelling Narrative Debrief of VAST Challenge, IEEE
2010	Excellent Graduate awarded by Zhejiang Provincial Higher Education Council
2007, 2008, 2009	Excellent Student Scholarship awarded by Zhejiang University of Technology
2008	Outstanding Student awarded Zhejiang University of Technology

TEACHING EXPERIENCE

Augusta University (Evaluation Score is the average of "Instructor" items out of 5.0)

Fall 2024	"Data Visualization" CSCI 4950/6950		
Spring 2024	"Computer Graphics" CSCI 4820	18 students	Student Evaluation: 4.46 (16/18)

Arizona State University

Summer 2021	Mentor for five high school students in the seven-week VADER Lab summer research camp

Purdue University

2018, 2019, 2020	Graduate Mentor for three students who received scholarships from Purdue's Discovery Park Undergraduate Research Internship (DURI) Program
Fall 2018	Teaching Assistant for "Introduction to Visual Analytics" ECE695D
2014, 2016, 2017	Graduate Mentor for three students in the Summer Undergraduate Research Fellowship (SURF) internship
2015-2020	Graduate Mentor for eleven undergraduate students participating in the Vertically Integrated Projects (VIP)

Tufts University

Spring 2012	Teaching Assistant for "Introduction to Programming for Business" COMP10

PUBLICATIONS

Journal Papers (peer-reviewed)

J12. F. Zhu, X. Zhu, X. Wang, Y. Ma, and J. Zhao. ATVis: Understanding and diagnosing adversarial training processes through visual analytics. *Visual Informatics*, pp. 1–22, In Press, Journal Pre-proof. doi: 10.1016/j.visinf.2024.10.003

J11. Y. Wang, <u>J. Zhao</u>, J. Hong, and R. M. Ronald G. Askin. A simulation-based approach for quantifying the impact of interactive label correction for machine learning. *IEEE Transactions on Visualization and Computer Graphics*, pp. 1–17, Early Access. doi: **10.1109/TVCG.2024.3468352**

J10. P. Salehi, Y. Ba, N. Kim, A. Mosallanezhad, A. Pan, M. C. Cohen, Y. Wang, <u>J. Zhao</u>, S. Bhatti, J. Sung, E. Blasch, M. V. Mancenido, and E. K. Chiou. Towards trustworthy AI-enabled decision support systems: Validation of the multisource AI scorecard table (MAST). *Journal of Artificial Intelligence Research*, 80:1311–1341, Aug. 2024. doi: **10.1613/jair.1.14990**

J9. R. Hnatyshyn, <u>J. Zhao</u>, D. Perez, J. Ahrens, and R. Maciejewski. MolSieve: A progressive visual analytics system for molecular dynamics simulations. *IEEE Transactions on Visualization and Computer Graphics*, 30(1):727–737, Jan. 2024. doi: **10.1109/TVCG.2023.3326584**

J8. <u>J. Zhao</u>, Y. Wang, M. V. Mancenido, E. K. Chiou, and R. Maciejewski. Evaluating the impact of uncertainty visualization on model reliance. *IEEE Transactions on Visualization and Computer Graphics*, 30(7):4093–4107, July 2024. doi: **10.1109/TVCG.2023.3251950**

J7. A. Reinert, L. S. Snyder, <u>J. Zhao</u>, A. S. Fox, D. F. Hougen, C. Nicholson, and D. S. Ebert. Visual analytics for decision-making during pandemics. *Computing in Science & Engineering*, 22(6):48–59, Nov. 2020. doi: **10.1109/MCSE.2020.3023288**

J6. <u>J. Zhao</u>, M. Karimzadeh, L. S. Snyder, C. Surakitbanharn, Z. C. Qian, and D. S. Ebert. MetricsVis: A visual analytics system for evaluating employee performance in public safety agencies. *IEEE Transactions on Visualization and Computer Graphics*, 26(1):1193–1203, Jan. 2020. doi: **10.1109/TVCG.2019.2934603**

J5. M. Khayat, M. Karimzadeh, <u>J. Zhao</u>, and D. S. Ebert. VASSL: A visual analytics toolkit for social spambot labeling. *IEEE Transactions on Visualization and Computer Graphics*, 26(1):874–883, Jan. 2020. doi: **10.1109/TVCG.2019.2934266**

J4. L. Tay, V. Ng, A. Malik, J. Zhang, J. Chae, D. S. Ebert, Y. Ding, <u>J. Zhao</u>, and M. Kern. Big data visualizations in organizational science. *Organizational Research Methods*, 21(3):660–688, July 2018. doi: **10.1177/1094428117720014**

J3. Y. L. Wong, <u>J. Zhao</u>, and N. Elmqvist. Evaluating social navigation visualization in online geographic maps. *International Journal of Human-Computer Interaction*, 31(2):118–127, Feb. 2015. doi: **10.1080/10447318.2014.959106**

J2. S. Ko, <u>J. Zhao</u>, J. Xia, S. Afzal, X. Wang, G. Abram, N. Elmqvist, L. Kne, D. Van Riper, K. Gaither, S. Kennedy, W. Tolone, W. Ribarsky, and D. S. Ebert. VASA: Interactive computational steering of large asynchronous simulation pipelines for societal infrastructure. *IEEE Transactions on Visualization and Computer Graphics*, 20(12):1853–1862, Dec. 2014. doi: **10.1109/TVCG.2014.2346911**

J1. E. T. Brown, A. Ottley, <u>H. Zhao</u>, Q. Lin, R. Souvenir, A. Endert, and R. Chang. Finding Waldo: Learning about users from their interactions. *IEEE Transactions on Visualization and Computer Graphics*, 20(12):1663–1672, Dec. 2014. doi: **10.1109/TVCG.2014.2346575**

Conference Papers (peer-reviewed)

C7. L. Snyder, <u>J. Zhao</u>, A. Reinert, G. Wang, and D. Ebert. PanViz 2.0: AI-driven visual analytics to adapt to the novel challenges of COVID-19. In *Proceedings of the Hawaii International Conference on System Sciences*, HICSS-54, pp. 1457–1465. ScholarSpace, Jan. 2021. doi: **10.24251/HICSS.2021.176**

C6. <u>J. Zhao</u>, M. Karimzadeh, H. Xu, A. Malik, S. Afzal, G. Wang, N. Elmqvist, and D. S. Ebert. Route Packing: Geospatially-accurate visualization of route networks. In *Proceedings of the Hawaii International Conference on System Sciences*, HICSS-53, pp. 1370–1379. ScholarSpace, Jan. 2020. doi: **10.24251/HICSS.2020.168**

C5. <u>J. Zhao</u>, M. Karimzadeh, A. Masjedi, T. Wang, X. Zhang, M. M. Crawford, and D. S. Ebert. FeatureExplorer: Interactive feature selection and exploration of regression models for hyperspectral images. In *Proceedings of the IEEE Visualization Conference*, VIS 2019, pp. 161–165. IEEE, Los Alamitos, Oct. 2019. doi: **10.1109/VISUAL.2019.8933619**

C4. A. Masjedi, <u>J. Zhao</u>, A. M. Thompson, K. Yang, J. E. Flatt, M. M. Crawford, D. S. Ebert, M. R. Tuinstra, G. Hammer, and S. Chapman. Sorghum biomass prediction using UAV-based remote sensing data and crop model simulation. In *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2018, pp. 7719–7722. IEEE, Los Alamitos, July 2018. doi: **10.1109/IGARSS.2018.8519034**

C3. Z. Zhang, A. Masjedi, <u>J. Zhao</u>, and M. M. Crawford. Prediction of sorghum biomass based on image based features derived from time series of UAV images. In *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, pp. 6154–6157. IEEE, Los Alamitos, July 2017. doi: **10.1109/IGARSS.2017.8128413**

C2. <u>J. Zhao</u>, A. Malik, H. Xu, G. Wang, J. Zhang, C. Surakitbanharn, and D. S. Ebert. MetricsVis: A visual analytics framework for performance evaluation of law enforcement officers. In *Proceedings of the IEEE International Symposium on Technologies for Homeland Security*, HST 2017, pp. 1–7. IEEE, Los Alamitos, Apr. 2017. doi: **10.1109/THS.2017.7943468**

C1. S. K. Badam, <u>J. Zhao</u>, S. Sen, N. Elmqvist, and D. Ebert. TimeFork: Interactive prediction of time series. In *Proceedings of the ACM Conference on Human Factors in Computing Systems*, CHI '16, pp. 5409–5420. ACM, New York, May 2016. doi: **10.1145/2858036.2858150**

Posters (peer-reviewed)

P9. C. Guo, J. Zhao, L. Ding, T. Zhang, W. Deng, P. Owusu Attah, X. Guo, X. T. Nguyen, Y. Ju, Z. C. Qian, and Y. V. Chen. ConstellationBuilder: A high-level situational awareness and team assembly interface for cybersecurity events. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 1–2. IEEE, Los Alamitos, Oct. 2020   VAST Challenge 2020 MC3 Award ★

P8. W. Hatton, J. Zhao, M. B. Gorantla, J. Chae, B. Ahlbrand, H. Xu, S. Chen, G. Wang, J. Zhang, A. Malik, S. Ko, and D. S. Ebert. Visual analytics for detecting communication patterns. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 137–138. IEEE, Los Alamitos, Oct. 2015. doi: 10.1109/VAST.2015.7347648 VAST Challenge 2015 MC2 Honorable Mention ★

P7. J. Zhao, G. Wang, J. Chae, H. Xu, S. Chen, W. Hatton, S. Towers, M. B. Gorantla, B. Ahlbrand, J. Zhang, A. Malik, S. Ko, and D. S. Ebert. ParkAnalyzer: Characterizing the movement patterns of visitors VAST 2015 mini-challenge 1. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 179–180. IEEE, Los Alamitos, Oct. 2015. doi: 10.1109/VAST.2015.7347669

P6. J. Chae, G. Wang, B. Ahlbrand, M. B. Gorantla, J. Zhang, S. Chen, H. Xu, J. Zhao, W. Hatton, A. Malik, S. Ko, and D. S. Ebert. Visual analytics of heterogeneous data for criminal event analysis VAST challenge 2015: Grand challenge. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 149–150. IEEE, Los Alamitos, Oct. 2015. doi: 10.1109/VAST.2015.7347654

P5. S. K. Badam, J. Zhao, N. Elmqvist, and D. S. Ebert. TimeFork: Mixed-initiative time-series prediction. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 223–224. IEEE, Los Alamitos, Oct. 2014. doi: 10.1109/VAST.2014.7042501

P4. J. Zhang, S. Afzal, D. Breunig, J. Xia, J. Zhao, I. Sheeley, J. Christopher, D. S. Ebert, C. Guo, S. Xu, J. Yu, Q. Wang, C. Wang, Z. Qian, and Y. Chen. Real-time identification and monitoring of abnormal events based on microblog and emergency call data using SMART. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology,* pp. 393–394. IEEE, Los Alamitos, Oct. 2014. doi: 10.1109/VAST.2014.7042582

P3. J. Xia, J. Zhao, I. Sheeley, J. Christopher, Q. Wang, C. Guo, J. Zhang, D. S. Ebert, Y. V. Chen, and Z. C. Qian. AnnotatedTimeTree: Visualization and annotation of news text and other heterogeneous document collections. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 337–338. IEEE, Los Alamitos, Oct. 2014. doi: 10.1109/VAST.2014.7042554

P2. C. Guo, J. Xia, J. Yu, J. Zhao, J. Zhang, Q. Wang, Z. C. Qian, Y. V. Chen, C. Wang, and D. Ebert. AnnotatedTimeTree, Dodeca-Rings Map & SMART: A geo-temporal analysis of criminal events. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, pp. 303–304. IEEE, Los Alamitos, Oct. 2014. doi: 10.1109/VAST.2014.7042538

P1. J. Zhao, Q. Lin, A. Ottley, and R. Chang. Modeling user interactions for complex visual search tasks. In *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*. IEEE, Los Alamitos, Oct. 2013

Book Chapter

B1. M. Karimzadeh, J. Zhao, G. Wang, L. S. Snyder, and D. S. Ebert. Human-guided visual analytics for big data. In *Big Data in Psychological Research*, pp. 145–177. American Psychological Association, Washington, Jan. 2020. doi: 10.1037/0000193-008

PROFESSIONAL SERVICE

Program Committee Member
Visualization Notes Track of PacificVis 2023-present

Journal Reviewer

IEEE Transactions on Visualization and Computer Graphics
Computer Graphics Forum
IEEE Computer Graphics and Applications
Applied Ergonomics
IEEE Transactions on Systems, Man and Cybernetics : Systems
Visual Informatics
ACM Transactions on Intelligent Systems and Technology

Conference Reviewer

The IEEE Conference on Visualization & Visual Analytics (IEEE VIS 2021, 2022, 2023)
The IEEE Conference on Visual Analytics Science and Technology (IEEE VAST 2018, 2019, 2020)
The Eurographics Conference on Visualization (EuroVis 2019)
The IEEE Pacific Visualization Symposium (PacificVis 2020, 2021, 2023, 2024 journal track)
Hawaii International Conference on System Sciences (HICSS-53, 54, 55, 57, 58)

Conference

IEEE VIS 2024 Panel 20 Years of Visual Analytics Organizer
IEEE VIS 2022 Session Chair

IEEE VIS 2019 Student Volunteer

Department Service

10/2023-present   Faculty Mentor, Women in CyberSecurity (WiCyS) Student Chapter

Mentoring

PhD Students

Shichen Gao (Fall 2024-present; major-advisor)
Alireza Taheritajar (Summer 2024-present; co-advisor)