

Jieqiong Zhao

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📍 West Lafayette, IN 🔗 <https://jieqiongzhao.github.io>

EDUCATION

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

HONORS AND AWARDS

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| 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 |

RESEARCH EXPERIENCE

Purdue University VACCINE Lab

Graduate Research Assistant with Dr. David S. Ebert

2013-2020

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| 2016-2020 | FeatureExplorer: Visual analytics for automated sorghum phenotyping and trait development Visualizing the remote sensing data collected by a UAV-based platform. Incorporating the feature engineering pipeline of remote sensing experts to improve the prediction for phenotypic traits of energy crops. Relevant publications : C5, C4, C3 |
| 2015-2020 | MetricsVis: Employee performance evaluation and analysis for law enforcement officers Collaboration with local law enforcement officers to exploit their automatically logged activity records. Utilizing dynamic evaluation metrics to understand the impact of behavior types, shifts, and patrol districts. Relevant publications : J6, J4, C2 |
| 2014-2015 | Route Packing: Geospatially-accurate visualization of route networks Displaying several routes simultaneously on a geographic map while preserving the geospatial layout, identity, directionality, and volume of individual routes. Relevant publication : C6 |
| 2013-2014 | VASA: Interactive computational steering of large asynchronous simulation pipelines for infrastructure Designing a workbench connected with several distributed servers that modeling the impact of societal threats such as weather, food contamination, and traffic on critical infrastructure such as supply chains, road networks, and power grids. Relevant publication : J2 |

Tufts University VALT Lab

Master Project with Dr. Remco Chang

2011-2013

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| 2011-2013 | Modeling user interactions for complex visual search tasks Investigating the interaction patterns of users while performing search tasks. Utilized <i>Where's Waldo</i> as a representative example of visual complex search tasks. Relevant publications : J1, P1 |
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TEACHING EXPERIENCE

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| 2018, 2019, 2020 | Graduate Mentor for three students received scholarships from Purdue's Discovery Park Undergraduate Research Internship (DURI) Program |
| Fall 2018 | Teaching Assistant for Purdue's 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) |
| Spring 2012 | Teaching Assistant for Tufts's Introduction to Programming for Business COMP10 |

Journal Papers (peer-reviewed)

- J6. **J. Zhao**, 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. [Acc. rate : 24.7%]
- J5. M. Khayat, M. Karimzadeh, **J. Zhao**, 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. [Acc. rate : 24.7%]
- J4. L. Tay, V. Ng, A. Malik, J. Zhang, J. Chae, D. S. Ebert, Y. Ding, **J. Zhao**, and M. Kern. Big data visualizations in organizational science. *Organizational Research Methods*, 21(3):660–688, 2018
- J3. Y. L. Wong, **J. Zhao**, and N. Elmqvist. Evaluating social navigation visualization in online geographic maps. *International Journal of Human–Computer Interaction*, 31(2):118–127, 2015
- J2. S. Ko, **J. Zhao**, 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. [Acc. rate : 24.7%]
- J1. E. T. Brown, A. Ottley, **H. Zhao**, 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. [Acc. rate : 24.7%]

Conference Papers (peer-reviewed)

- C6. **J. Zhao**, 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, January 2020. [Acc. rate : 47%]
- C5. **J. Zhao**, 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, Oct 2019. [Acc. rate : 31.7%]
- C4. A. Masjedi, **J. Zhao**, 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, July 2018
- C3. Z. Zhang, A. Masjedi, **J. Zhao**, 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, July 2017
- C2. **J. Zhao**, 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, April 2017
- C1. S. K. Badam, **J. Zhao**, S. Sen, N. Elmqvist, and D. Ebert. TimeFork: Interactive prediction of time series. In *the ACM Conference on Human Factors in Computing Systems*, CHI ’16, pp. 5409–5420. ACM, 2016. [Acc. rate : 23.2%]

Posters (peer-reviewed)

- P7. 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, Oct 2015
VAST Challenge 2015 MC2 Honorable Mention ★
- P6. **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, Oct 2015
- P5. 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, Oct 2015
- P4. 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, Oct 2014
- 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, Oct 2014

- 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, Oct 2014
- 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, Oct 2013

Book Chapter

1. 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, DC, USA, Jan 2020

PROFESSIONAL SERVICES

Conference Reviewer

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)
Hawaii International Conference on System Sciences (HICSS-53)

Student Volunteer

IEEE VIS 2019 Student Volunteer