Tiankai Xie

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Professional Summary

Ph.D. candidate in computer science with research interests including Visual Analytics, Explainable AI, and Human-computer Interaction. Professional knowledge of Artificial Intelligence as well as proficiency in full-stack development. Dedicated to addressing issues of machine learning vulnerabilities with innovative solutions that maximize the machine learning model's interpretability and enhance the model's robustness.

Education

Arizona State University Tempe, AZ
Ph.D. candidate in Computer Science; Ross Maciejewski (Ph.D. advisor); GPA: 3.69 / 4.0 *Aug. 2018 – Present*
Dissertation: "Explaining the Vulnerability of Machine Learning through Visual Analytics"

Stevens Institute of Technology Hoboken, NJ
M.S. in Computer Science; GPA: 3.7 / 4.0 *Aug. 2015 – May 2017*

Beijing Forestry University Beijing, China
B.S. in Computer Science *Sep. 2011 – Jul. 2015*

Professional Experience

Graduate Research Associate Aug. 2018 – Present
VADER Lab, School of Computing and Augmented Intelligence, Arizona State University *Tempe, AZ*

Data Scientist, Intern May 2021 – Aug 2021
Decision Science Visualization Team, Epsilon Data Management, LLC *Chicago, IL*

Co-founder Aug. 2017 – Jul. 2018
Robotgyms Inc. *San Mateo, CA*

Publications

- **Xie, T.,** Ma, Y., Kang, J., Tong, H., & Maciejewski, R. FairRankVis: A Visual Analytics Framework for Exploring Algorithmic Fairness in Graph Mining Models. IEEE Transactions on Visualization and Computer Graphics, 2021.

- Kang, J., **Xie, T.,** Wu, X., & Maciejewski, R.,Tong, H. MultiFair: Multi-Group Fairness in Machine Learning, 2021

- **Xie, T.,** Ma, Y., Tong, H., Thai, M. T., & Maciejewski, R. Auditing the Sensitivity of Graph-based Ranking with Visual Analytics. IEEE Transactions on Visualization and Computer Graphics, 2020.

- Ma, Y., **Xie, T.,** Li, J., & Maciejewski, R. Explaining vulnerabilities to adversarial machine learning through visual analytics. IEEE transactions on visualization and computer graphics, 2019.

Invited Talks

- **FairRankVis: A Visual Analytics Framework for Exploring Algorithmic Fairness in Graph Mining Models.** IEEE Conference on Visualization and Visual Analytics, Oct. 2021.

- **Auditing the Sensitivity of Graph-based Ranking with Visual Analytics**. IEEE Conference on Visualization and Visual Analytics, Oct. 2020.

- **Explaining vulnerabilities to adversarial machine learning through visual analytics.** IEEE Conference on Visual Analytics Science and Technology (VAST). Oct. 2019, Vancouvor, Canada.