Yu Wang

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About Me

I am a Ph.D. student at the Visualization and Graphics Group, Utrecht University, with research interests in high-dimensional data visualization, adversarial training (GAN), and machine learning classifier visualization. I am also passionate about Generative AI in art, and hold a gemology diploma from Gem-A, with proficiency in gem identification.

Education

Utrecht University *Mar. 2023 – Summer2025 (expected)*
Ph.D. candidate in Visual Data Analytics
Supervisor: Prof. Alexandru C. Telea

China University of Geosciences, Beijing, China *Sep. 2019 – Jun. 2025 (expected)*
Ph.D. candidate in Geology
Supervisor: Prof. Kunfeng Qiu; Prof. Richard Goldfarb

China University of Geosciences, Beijing, China *Sep. 2015 – Jun. 2019*
B.A. in Product Design
GPA: 3.55/4.0

Research Experience

Ph.D. Researcher *Mar. 2023 – Present*
Visualization and Graphics Group, Utrecht University

- Working on Decision Maps for machine learning classifiers, a method for interpretability.
- Currently focusing on using adversarial training to achieve better inverse projections.

Ph.D. Researcher *2019 – Present*
School of Earth Sciences and Resources, China University of Geosciences, Beijing

- Machine learning for mineral genetic type classification.
- Built decision boundary maps for mineral genetic types.

Work Experience

AI Engineer Intern *Feb. 2022 – Sep. 2022*
Schlumberger Technologies (Beijing) Ltd.

- Contributed to the project: Digital Geo-mechanics Algorithms and Implications for Real-time Drilling
  - Developed a GAN-based solution for lithology reconstruction.
  - Implemented formation labeling algorithm in 3D space (idea by manager, Gongrui Yan).
  - Created 3D interactive visualizations for rock strata and well trajectories to demonstrate the algorithms.
- Achieved 2nd place in the PUTC Data Science Hackathon 2022.

Technical Skills

- **Programming Languages**: Python, HTML, CSS, JavaScript
- **Data Science & Machine Learning**: pandas, NumPy, scikit-learn, PyTorch
- **Web Development**: Flask
- **Visualization Tools**: Matplotlib, seaborn, D3.js
- **Desktop GUI Development**: PySide/PyQt

Awards

Best Student Paper Award *2024*
15th International Conference on Information Visualization Theory and Applications (IVAPP/VISIGRAPP)

First-class Doctoral Student Scholarship *2020, 2021*
China University of Geosciences, Beijing (CUGB)

3rd Prize *2018*
"Tianmu Cup" National Jewelry Identification Professional Skills Competition

2nd Prize *2017*
"Tianmu Cup" National Jewelry Identification Professional Skills Competition

Three-Good Student Award *2017*
China University of Geosciences, Beijing

Professional Scholarship (4 times) *2015–2019*
China University of Geosciences, Beijing

Conference Presentations

The 15th International EuroVis Workshop on Visual Analytics (EuroVA) *May 2024*
Odense, Denmark (Non-Speaker)

The 15th International Conference on Information Visualization Theory and Applications (IVAPP/VISIGRAPP) *Feb 2024*
Rome, Italy (Speaker)

EGU General Assembly *Apr 2023*
Vienna, Austria (Speaker)

The 15th National Conference on Mineral Deposits *Nov 2020*
Hangzhou, China (Speaker)

Selected Publications

1. Grosu, C., Wang, Y., & Telea, A. (2024). Computing fast and accurate decision boundary maps. *Proc. EuroVA*.
2. Blumberg, D., Wang, Y., Telea, A., Keim, D., & Dennig, F. (2024). Inverting Multidimensional Scaling Projections Using Data Point Multilateration. *Proc. EuroVA*.
3. Wang, Y., Qiu, K., Telea, A., Hou Z., Zhou T., Cai Y., Ding Z., Yu H., Deng J. (2024). Interpreting mineral deposit genesis classification with decision maps: A case study using pyrite trace elements. *American Mineralogist*.
4. Telea, A., Machado, A., & Wang, Y. (2024). Seeing is Learning in High Dimensions: The Synergy Between Dimensionality Reduction and Machine Learning. *SN Computer Science*, 5(3), 279.
5. Wang, Y., & Telea, A. (2024). Fundamental Limitations of Inverse Projections and Decision Maps. *Proc. IVAPP*, 1, 571–582.
6. Wang Y., Machado, A., Telea, A. (2023). Quantitative and Qualitative Comparison of Decision-Map Techniques for Explaining Classification Models. *Algorithms*, 16(9), 438.
7. Wang Y., Qiu K. Hou Z., and Yu H. (2022). Quartz Ti/Ge-P discrimination diagram: A machine learning based approach for deposit classification. *Acta Petrologica Sinica*, 38(1): 281-290 (in Chinese with English abstract).
8. Wang Y., Qiu K., Müller A., Hou Z., Zhu Z., Yu H. (2021). Machine Learning Prediction of Quartz Forming-Environments. *Journal of Geophysical Research: Solid Earth*. 126(8): e2021JB021925.

Languages

Mandarin (native); **English** (working proficiency); **Dutch** (A1 level)