

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 <i>Ph.D. candidate in Visual Data Analytics</i> Supervisor: Prof. Alexandru C. Telea	<i>Mar. 2023 – Summer 2025</i> <i>(expected)</i>
China University of Geosciences, Beijing, China <i>Ph.D. candidate in Geology</i> Supervisor: Prof. Kunfeng Qiu; Prof. Richard Goldfarb	<i>Sep. 2019 – Jun. 2025</i> <i>(expected)</i>
China University of Geosciences, Beijing, China <i>B.A. in Product Design</i> GPA: 3.55/4.0	<i>Sep. 2015 – Jun. 2019</i>

Research Experience

Ph.D. Researcher <i>Visualization and Graphics Group, Utrecht University</i> <ul style="list-style-type: none">Working on Decision Maps for machine learning classifiers, a method for interpretability.Currently focusing on using adversarial training to achieve better inverse projections.	<i>Mar. 2023 – Present</i>
Ph.D. Researcher <i>School of Earth Sciences and Resources, China University of Geosciences, Beijing</i> <ul style="list-style-type: none">Machine learning for mineral genetic type classification.Built decision boundary maps for mineral genetic types.	<i>2019 – Present</i>

Work Experience

AI Engineer Intern <i>Schlumberger Technologies (Beijing) Ltd.</i> <ul style="list-style-type: none">Contributed to the project: Digital Geo-mechanics Algorithms and Implications for Real-time Drilling<ul style="list-style-type: none">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.	<i>Feb. 2022 – Sep. 2022</i>
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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 15th International Conference on Information Visualization Theory and Applications (IVAPP/VISIGRAPP)	2024
First-class Doctoral Student Scholarship China University of Geosciences, Beijing (CUGB)	2020, 2021
3rd Prize "Tianmu Cup" National Jewelry Identification Professional Skills Competition	2018
2nd Prize "Tianmu Cup" National Jewelry Identification Professional Skills Competition	2017
Three-Good Student Award China University of Geosciences, Beijing	2017
Professional Scholarship (4 times) China University of Geosciences, Beijing	2015–2019

Conference Presentations

The 15th International EuroVis Workshop on Visual Analytics (EuroVA) <i>Odense, Denmark</i> (Non-Speaker)	May 2024
The 15th International Conference on Information Visualization Theory and Applications (IVAPP/VISIGRAPP) <i>Rome, Italy</i> (Speaker)	Feb 2024
EGU General Assembly <i>Vienna, Austria</i> (Speaker)	Apr 2023
The 15th National Conference on Mineral Deposits <i>Hangzhou, China</i> (Speaker)	Nov 2020

Selected Publications

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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)