Weida Wang(王蔚达)

(+86)181-7733-6737 2151300@tongji.edu.cn

Education Background

Tongji University Shanghai **Software Engineering** **Bachelor** **2021.9 ~ 2025.7**

- **GPA: 4.83/5.00**, **Rank: 8/228**, recipient of the **National Scholarship**

Publications

- **Weida Wang**, Jin Zeng, Gene Cheung et al. Consistent ToF Depth Denoising with Coherent Motion-Geometric Attention. *Under Reviewed by IEEE Transactions on Multimedia.*
- Jianping Zhou, **Weida Wang**, Guanjie Zheng, et al. SITA: Enhancing spatial inherency and temporal adaptivity for inductive spatio-temporal kriging. *Under Reviewed by ACM Knowledge Discovery and Data Mining.*
- Zhenghao Liu, **Weida Wang**, et al. DNN-GA-RF prediction model for rock strength indicators based on sound level and drilling parameters. *In Proceedings of Bulletin of Engineering Geology and the Environment (JCR Q1, IF=3.7).*
- Xianfeng Ma, Zhenghao Liu, **Weida Wang**, et al. Characteristics of physical parameters and predictive modeling of mechanical properties in loess-like silty clay for engineering geology. *In Proceedings of Engineering Geology (JCR Q1, IF=6.9).*

Research Projects

Consistent ToF Depth Denoising with Coherent Motion-Geometric Attention **2023.7 ~ 2024.1**

IEEE Transactions on Multimedia (TMM, CCF-B, IF=7.3, under review) *First Author*

- Proposed a denoising method for raw IQ data collected by iToF depth cameras based on temporal consistency.
- Used an attention mechanism to focus on the influence of the previous frame on the subsequent frame, incorporating geometric information, and designed a maximum a posteriori estimation problem for solving.
- Team leader, responsible for model design, dataset generation, code implementation, and paper writing; experimental results reached SOTA, and the principles and results were organized into a paper under review.

SITA: Enhancing Inherency and Adaptivity for Inductive Spatio-temporal Kriging **2023.11 ~ 2024.8**

Conference on Knowledge Discovery and Data Mining (KDD, CCF-A, under review) *Second Author*

- Inductive spatio-temporal kriging leverages observed sensor data to infer unknown sensor data, crucial for urban areas with sparse sensor distributions.
- SITA introduces a neural network enhancing spatial inherency and temporal adaptivity by incorporating nodes' geographical information and designing a temporal adaptive matrix to capture dynamic spatial dependencies.
- Responsible for idea iteration, code implementation, and literature review; the paper was submitted to KDD.

LLM-based General Graph Generation Model **2024.2 ~ Present**

- Designed a graph generation mechanism based on LLM to address data gaps in graph data mining tasks.
- Developed a graph generation mechanism based on the encoder-decoder architecture, using LLM's representation capability to extract features between sequences.
- Responsible for model design and code implementation; in the experimental design stage, planning to submit the paper in August.

Advancing Social Goal Inference: Integrating Social Choice Theory in Bayesian Multi Agent Models

MIT Media Lab's City Science Lab @ Shanghai ***2023.3 ~ 2024.3***

- Help city decision-makers to make better decisions through modeling.
- Integrate social choice theory with a Bayesian model to improve efficiency in multi-agent reinforcement learning.
- Group leader, model design, experiment design, data collection, and model performance analysis.

Characteristics of Engineering Physical Parameters in Loess-like Silty Clay and Machine Learning Prediction Methods for Its Mechanical Parameters **2023.3 ~ 2024.3**

Engineering Geology (JCR Q1, IF=6.9, accepted) *Third Author*

- Constructed a multi-source data fusion analysis and intelligent evaluation system for rock mass parameters, analyzing and evaluating geotechnical indicators.
- Model regression accuracy reached 95%, achieving SOTA level in the industry; the project has another paper *DNN−GA−RF Prediction Model for Rock Strength Indicators Based on Sound Level and Drilling Parameters, Bulletin of Engineering Geology and the Environment* (JCR Q1,IF=3.7, second author) accepted.

Internship Experience

Hundsun Technologies Inc. **Shanghai** **2023.7 ~ 2023.8**

Hundsun Academy *Project Leader*

- Developed a front-end page based on HUI (a Vue-based framework) and a back-end fund trading platform based on Spring Boot and JRES microservice architecture; responsible for the front-end development and organized the overall project development.
- Obtained Hundsun Technologies' Financial Technology Engineer Certification (HSFT).

Huawei MindSpore Open Source Community **Shanghai** **2023.8 ~ 2023.9**

Huawei MindSpore Innovation Training Camp *Project Leader*

- Learned the relevant interfaces of the MindSpore framework, fine-tuned the BERT pre-trained model using the MindSpore framework, and developed a grading system based on hash optimization, which could accurately score subjective questions based on the Wikipedia dataset.
- The project won the first prize in the Huawei MindSpore Innovation Training Camp.

Honors and Awards

- 2022-2023 **National Scholarship**
- 2021-2022 Tongji University Excellent Student **First-class Scholarship**
- International Genetically Engineered Machine Competition (iGEM) AI & Software Track **Gold Medal**
- National Undergraduate Mathematics Competition (Non-mathematics Category) **First Prize**
- China Undergraduate Computer Design Competition **First Prize**
- China Collegiate Computing Contest HCI Innovation Competition **Second Prize (Top 0.4%)**
- HuaShu Cup International Mathematical Modeling Contest **First Prize**
- HuaShu Cup National Undergraduate Mathematical Modeling Contest **First Prize**

Professional Skills

- **Programming Skills**: C, C++, MATLAB, Java, Python, LaTeX
- **Front-end Web Development**: Vue, HTML, CSS, JavaScript
- **Design and Modeling**: Unity3D, Blender, Figma, Adobe PS
- **Machine Learning**: PyTorch, scikit-learn, MMCV, Tensorflow, MindSpore
- **English Proficiency**: CET-6(573), CET-4(620), IELTS(6.5(6))

References

- **Jin Zeng @Graph Signal Processing Lab, Tongji University**
  Website: https://jzengust.github.io/
  Email: zengjin@tongji.edu.cn
  Research Interests: graph signal processing, graph-based machine learning
- **Guanjie Zheng @John Hopcroft Center for Computer Science, Shanghai Jiao Tong University**
  Website: https://jhc.sjtu.edu.cn/ gjzheng/
  Email: gjzheng@sjtu.edu.cn
  Research Interests: data-driven intelligent decision making, spatiotemporal data mining
- **Professor. Lin Zhang @School of Software Engineering, Tongji University**
  Website: https://cslinzhang.gitee.io/home/
  Email: cslinzhang@tongji.edu.cn
  Research Interests: SLAM, computer vision, image perception