Zerui Wang

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Education

Concordia University May 2021 – Present
PhD in Computer Engineering: Explainable AI and Cloud AI Service *Montreal, Canada*

Technical University Dortmund Oct 2014 – Dec 2017
MSc in Process System Engineering: Computational Modelling and Simulation *Dortmund, Germany*

China University of Mining and Technology Sep 2010 – Jul 2014
BSc in Chemical Engineering: Computational Modelling and Simulation *Xuzhou, China*

Research and Project Experience

AI Engineer Intern Apr, 2023 – Present
Huawei *Montréal, Canada*

- Analyzed AI technology trends and academic research to inform technical development strategies.
- Assessed state-of-the-art AI technologies, academic research, and start-up companies to determine the feasibility and potential for offering investment.
- Developed large language models (LLMs) software for automatic investment events classification, recognition, and report generation, which were implemented in-house.
- Fine-tuned LLMs for tasks involving text generation and information extraction, enhancing model performance in the domain tasks.
- Developed and deployed a chatbot using open-source LLMs and the OpenAI API, integrating retrieval-augmented generation (RAG), tokenizer, and vector database.
- Delivered three open lectures at the Huawei Development Department Grand Hall on advanced AI topics, LLMs, development trends, and industrial applications.

Ph.D. Research May, 2021 – Present
Concordia University *Montréal, Canada*

- Developed Explainable AI (XAI) process to quantify feature contribution explanation, applying across diverse AI systems, including search, code vulnerability detection, and computer vision.
- Engineered a microservice-based, open-API architecture to integrate XAI operations into cloud AI services, enabling AI predictions to be explainable without exposing underlying model structures.
- Launched XAIport, a service framework utilizing configurable XAI operations, enhancing AI model performance and explanation in cloud environments, including Microsoft Azure, Google Cloud Vertex AI, and Amazon Web Service.
- Designed and implemented an assessment framework for AI service delivery in cloud computing, assessing AI models under adversarial conditions to ensure robustness and explanation accuracy in operational scenarios.

Research Assistant Sep, 2019 – Mar, 2021
École Polytechnique, affiliés de Université de Montréal *Montréal, Quebec, Canada*

- Performed experimental research in Computational Fluid Dynamics.
- Engaged in the design, modeling, and simulation a task in an Industrial Project.

Research Publications

Zerui Wang, Yan Liu, Abishek Arumugam Thiruselvi, Abdelwahab Hamou-Lhadj. 2024. "XAIport: A Service Framework for the Early Adoption of XAI in AI Model Development." In *2024 ACM/IEEE 44th International Conference on Software Engineering (ICSE 24)*. ACM, New York, NY, USA. https://doi.org/10.1145/3639476.3639759

Zerui Wang, Yan Liu, Jun Huang. 2024. "An Open API Architecture to Discover the Trustworthy Explanation of Cloud AI Services." In *IEEE Transactions on Cloud Computing*, doi: 10.1109/TCC.2024.3398609.

Zerui Wang, Yan Liu. 2024. "Cloud-based XAI Services for Assessing Open Repository Models Under Adversarial Attacks." In *IEEE International Conference on Software Services Engineering*, arXiv:2401.12261.

Ding Li, Yan Liu, Jun Huang, Zerui Wang. 2023. "A Trustworthy View on Explainable Artificial Intelligence Method Evaluation." In *IEEE Computer*, vol. 56, no. 4, 50–60. doi: 10.1109/MC.2022.3233806.

Elie Neghawi, Zerui Wang, Jun Huang, Yan Liu. 2023. "Linking Team-level and Organization-level Governance in Machine Learning Operations through Explainable AI and Responsible AI Connector." In *2023 IEEE 47th Annual Computers, Software, and Applications Conference (COMPSAC)*, 1223-1230. doi: 10.1109/COMPSAC57700.2023.00185.

Zerui Wang*, Jun Huang*, Ding Li, Yan Liu. 2022. "The Analysis and Development of an XAI Process on Feature Contribution Explanation." In *2022 IEEE International Conference on Big Data (Big Data)*, 5039–5048. doi: 10.1109/BigData55660.2022.10020313.