Wenqing Qu

+86 18861138493 | 2001-04 | male | Palaiseau
wenqing.qu@polytechnique.edu
Personal Website: https://qwqsama.github.io
GitHub: https://github.com/QwQSama
LinkedIn: https://www.linkedin.com/in/wenqing-qu-478879257/

EDUCATION

École Polytechnique, Palaiseau — Sep 2022 – Present
Master of Artificial Intelligence and Advanced Visual Computing
GPA: 3.49/4.00
Major Courses: Machine and Deep Learning, Natural Language Processing, Deep Reinforcement Learning, Computer Vision, Computer Animation

École Polytechnique, Palaiseau — Sep 2019 – Jun 2022
Bachelor of Computer Science & Mathematics
GPA: 3.72/4.00
Major Courses: Machine Learning, Computer Programming, Computer Graphics, Numerical Methods

École Polytechnique Fédérale de Lausanne, Lausanne — Sep 2021 – Apr 2022
Exchange Program in Computer Science & Mathematics Bachelor

RESEARCH EXPERIENCE

Diffusion-Based Denoising for Pedestrian Trajectory Prediction
EPFL VITA Lab, Lausanne — May 2024 – Sep 2024

- Developed a diffusion-based denoiser for pedestrian trajectory data to reduce noise in real-world scenarios.
- Extended the application of the denoiser to unseen pedestrian trajectory datasets, showcasing its adaptability beyond the training data.
- Tested the denoiser in trajectory prediction tasks and robot navigation systems, achieving improved accuracy and robustness, particularly in challenging, noisy environments.

Cross-View Geo-localization for Real Estate
Homiwoo, Palaiseau — Jan 2024 – Apr 2024

- Prepared and annotated datasets (CVUSA, CVACT, VIGOR) for model training and evaluation.
- Implemented and fine-tuned models based on Sample4Geo and SAIG architectures.
- Achieved significant performance improvements through data preprocessing and fine-tuning strategies.

Machine Learning in Multi-scale Geomechanics
INRAE, Aix en Provence — Jun 2023 – Sep 2023

- Developed and trained neural networks to replace traditional H-model structures for granular material simulation.
- Generated and preprocessed large datasets, and compared performance using standard tests.

Implicit Surface Modeling using Quaternion/Tensor Fields
École Polytechnique, Palaiseau — Jan 2022 – Apr 2022

- Explored quaternion and tensor fields for anisotropic blending in implicit surface modeling.
- Developed methods for skeleton-based implicit surfaces and demonstrated proof-of-concept for anisotropic blending.

PUBLICATION - PREPRINTS

Multiscale modeling of granular materials using mesoscale DEM and machine learning approaches
IS-Grenoble 2024, International Symposium on Geomechanics from Micro to Macro — Accepted for oral presentation
Antoine Wautier, Aoxin Li, Wenqing Qu, Mehdi Pouragha, Francois Nicot

- Establish the necessary framework for inputting any kind of mesostructure into multi-scale models for granular materials.
- Propose a strategy to compute the mechanical response of the mesostructures using discrete element simulations and surrogate models based on artificial neural networks (ANN).