TINGXI LI

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Education

Dalian University of Technology   Sep. 2019 – May 2024
Bachelor of Science: Chemistry   *Dalian, China*

Technical University of Munich   Apr. 2022 – Oct. 2022
Visiting Student: Computer Science   *Munich, Germany*

Relevant Coursework

- Data Structures
- Linear Algebra
- C Programming
- Database
- Mathematics Foundation for Machine Learning
- Computational Chemistry

Academic Experience

Patch-wise One-pixel Attack on Vision Transformers   Sept. 2021 – Dec. 2021
College Students Innovation Training Project   *Dalian, China*

- Conducted a survey towards the robustness of Vision Transformers when exposed to patch-wise natural corruption and malicious attacks.
- Designed and implemented a one-pixel attack algorithm that attacks on each patch of the image individually. Test the algorithm on both ViTs and CNNs.

Adversarial Attack on a Robotic Arm   Jan. 2023 – Present
The Intelligent Robotics and Vision Lab (IRVL) at UT Dallas | Supervisor: Wei Yang   *Dallas, United States*

- Revamped non-differentiable operations within the original robotic arm system, introducing a differentiable neural network renderer in place of the existing camera.
- Ensured consistent system performance with the baseline through rigorous training, treating the integrated system as a unified Multilayer Perceptron. Employed adversarial attack algorithms, generated adversarial examples targeting object pose and shape.
- Conducted experiments focused on single-object grasping tasks, revealing a significant decrease in grasping success rates for most objects following adversarial attacks.

LLM Based Yield Prediction of C-N Crosscoupling Reactions   Oct. 2023 – Present
Computational Chemistry Lab at Dalian University of Technology | Supervisor: Yang Li   *Dalian, China*

- Compare the performance in yield prediction of Large Language Models(LLM).
- Introduce a module to generate SMILES(Simplified molecular-input line-entry system) prompts
- Fine-tune pre-trained models with prompt on HTE datasets and collaborated with experimentists to test out-of-sample data.

Industrial Experience

Shenzhen TenClass Technology Co. Ltd   Jan. 2022 – Apr. 2022
Product Manager Intern   *Shenzhen, China*

- Conducted market research to understand the requirements for an AI character used in live streaming, analyzing recent academic papers and established commercial solutions.
- Designed and implemented a virtual host for live streaming using a combination of text-to-speech and speech-to-video models. Capable of responding real-time comments.

Awards and Foundation

Research Foundation for Outstanding Undergraduate   Oct. 2023 – Oct. 2025
Project Leader   *Dalian, China*

- 3,000 USD granted by Dalian University of Technology.
- Project title: LLM Based Yield Prediction of C-N Crosscoupling Reactions.

Miscellaneous

Research Interest: Trustworthy AI; Software Engineering; AI for Science
Languages: English: TOEFL 106 / Mandarin / Cantonese / German