Research Projects on Diffusion Language Models

Are you curious about the future of diffusion model beyond image generation? Are you excited by breakthroughs in text generation with diffusion LMs, like Gemini Diffusion/Mercury? This project aims to push the limits of computation and memory efficiency of LMs in inference time. Are you ready to explore this new research direction that has great potential? We are interested in supervising talented students and publishing high-quality publications with practical applications. Our lab is led by Prof. Volker Tresp from LMU, who is one of PIs of a European Laboratory for Learning and Intelligent Systems (ELLIS) fellowship program and the first distinguished research scientist at Siemens Corporate Technology, and PI of Munich Center of Machine Learning (MCML). We have already published several high-quality publications at top international conferences (Neurips, ICLR, ACL, EMNLP, NAACL, AAAI, UAI, CIKM, etc.). During this thesis project, you can collaborate with many talented PhDs. You will have the opportunity to develop advanced research skills while exploring the exciting field of Diffusion LMs.

Topic Description:
Concrete topics include Diffusion language model, Parallel decoding, Large Language Models, etc.

Requirements:
- Study (Bachelor/Master) in computer science, electrical engineering, physics, or mathematics;
- Good understanding of machine learning and deep learning;
- Good understanding of transformer as a plus;
- Good programming skills in Python and at least one deep learning framework;
- Independent working

Additional Information:
Start: from now on
Length of the work: 6-9 months

Contact information:
If you are interested, please contact cognitive.yunpu@gmail.com

We are looking forward to hearing from you!