

Liu Peng

☎ +86 15503076683 | ✉ LiuPeng_NGP@outlook.com | 🏠 <https://liupeng-ngp.github.io>

"Where there is a will, there is a way"

Personal Profile

I received my Bachelor degree in Computer Science and Technology from the Hebei University of Technology (211), with awarded outstanding graduate. In my Bachelor thesis, I studied the generative model systematically, and used diffusion model for Chinese painting generation. I have read a lot of materials related to artificial intelligence, including books, blogs and papers, etc. I also have learnt many courses such as Stanford CS 231N for Computer Vision and CS 224N for Natural Language Processing, etc. Now, I am looking for a research assistant job (about 2 years) related to my research interests. I sincerely hope to have the opportunity do some meaningful work and publish papers on top conferences.

Research Interests

Generative Models, Multimodal, Foundation Model

Education

Hebei University of Technology

B.Eng. in Computer Science and Technology, GPA 3.8/4

Tianjin, China

August 2019 - June 2023

- Outstanding graduate of HEBUT
- Changed major to computer science and technology (Only two members)
- Turned down the opportunity for postgraduate recommendation
- A Member of Communist Party of China (CPC)

Work Experience

Scorching Stone Technology

Algorithms Engineer

Beijing, China

Oct 2023 - Dec 2023

- Use diffusion model to generate controllable e-commerce pictures.
- Locating and solving the problem of poor Chinese face generation.
- Locating and analyzing the blank background problem in inpainting mode.
- Change color for clothes.

Thesis

Generative Models Research and Chinese Painting Generation

Hebei University of Technology

Tianjin, China

Jan 2023 - June 2023

- Systematic learning of mainstream generative models
- Flow-based model, Autoregressive model, Energy-based model, VAE, Diffusion model, GAN
- Use diffusion model for Chinese painting generation
- Read a lot of materials

Skills

Programming Python (Pytorch, TensorFlow, PaddlePaddle, Scikit-Learn), C/C++, C#, Java, SQL, HTML, JavaScript, MATLAB

Miscellaneous Git, \LaTeX , Markdown, Linux, Vim, Microsoft Office

Achievements

2023	Outstanding graduate of HEBUT , All aspects	Tianjin, China
2023	Innovation training program for college students , AI +Fiance, Leader, Province-level	Tianjin, China
2022	Entrepreneurship training program for college students , Software, Leader, Province-level	Tianjin, China
2021	First-class scholarship of Hebei University of Technology , Grades and extracurricular activities	Tianjin, China
2021	Merit student of Hebei University of Technology , All aspects	Tianjin, China
2020	First-class scholarship of Hebei University of Technology , Grades and extracurricular activities	Tianjin, China
2020	Merit student of Hebei University of Technology , All aspects	Tianjin, China

Motivation

In a long run, I believe that the real artificial intelligence will come true, which will liberate productivity and enable people to live better lives. I would like to devote myself to the research on artificial intelligence.

Languages

Chinese Native

English CET6, Proficient in reading

Advantages

Broaden AI Knowledge By learn lots of materials

Passion for AI I would like to devoted my self to artificial intelligence research

Solid theoretical foundation For some technology, I always want to explore the rationale behind it (My thesis is math heavy)

Thinking and reading skills I have read lots of English books, papers etc.

Self-Motivation Passionate about artificial intelligence

Have Learnt Courses

- Stanford CS 231N Deep Learning for Computer Vision, 2017 version and new content in 2023 version.
- Stanford CS 224N Natural Language Processing with Deep Learning, 2023 version
- MIT 6.S191 Introduction to Deep Learning
- Westlake Natural Language Processing Course in Spring 2023

Have Read Books

- Machine Learning (By Zhou Zhihua) (In Chinese)
- Statistical Learning Method (By Li Hang) (In Chinese)
- The Quest for Machine Learning (By Zhu Geyue, Calabash Brothers) (In Chinese)
- Hands-On Machine Learning with Scikit-Learn, Keras & TensorFlow (Aurélien Géron)
- Deep Learning with Python (By Francois Chollet) (Partially)
- Deep Learning with PyTorch (By Eli Stevens, Luca Antiga, Thomas Viehmann) (Partially)
- Computer Vision Algorithms and Applications (By Richard Szeliski)
- Generative Deep Learning (By David Foster) (Partially)
- Deep Learning (By Ian Goodfellow, Yoshua Bengio, and Aaron Courville)
- Deep Generative Modeling (By Jakub M. Tomczak)
- Natural Language Processing A Machine Learning Perspective (By Yue Zhang, Zhiyang Teng)
- Dive into Deep Learning (By Aston Zhang, Zack C. Lipton, Mu Li, and Alex J. Smola) (PyTorch Version)

Have read papers

I have read dozens of papers about generative models, including diffusion series and gpt series. Here are some examples.

1. Denoising Diffusion Probabilistic Models
2. Denoising Diffusion Implicit Models
3. Diffusion Models Beat GANs on Image Synthesis
4. Deep unsupervised learning using nonequilibrium thermodynamics
5. Classifier-Free Diffusion Guidance
6. Diffusion Models: A Comprehensive Survey of Methods and Applications
7. Generative Modeling by Estimating Gradients of the Data Distribution
8. GLIDE: Towards Photorealistic Image Generation and Editing with Text-Guided Diffusion Models

9. Hierarchical Text-Conditional Image Generation with CLIP Latents
10. High-Resolution Image Synthesis With Latent Diffusion Models
11. Improved Denoising Diffusion Probabilistic Models
12. Improved Techniques for Training Score-Based Generative Models
13. Palette: Image-to-Image Diffusion Models
14. RePaint: Inpainting using Denoising Diffusion Probabilistic Models
15. Score-Based Generative Modeling through Stochastic Differential Equations
16. SDEdit: Guided Image Synthesis and Editing with Stochastic Differential Equations
17. SDXL: Improving Latent Diffusion Models for High-Resolution Image Synthesis
18. U-Net: Convolutional Networks for Biomedical Image Segmentation
19. Attention is All you Need
20. BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding
21. Improving Language Understanding by Generative Pre-Training
22. Language Models are Unsupervised Multitask Learners
23. Language Models are Few-Shot Learners
24. LoRA: Low-Rank Adaptation of Large Language Models
25. Scaling Laws for Neural Language Models
26. Learning Transferable Visual Models From Natural Language Supervision
27. On the Opportunities and Risks of Foundation Models
28. Segment Anything