

Cheng Lu

(+86) 18810501559 | lucheng.lc15@gmail.com | <https://luchengthu.github.io>

Education

Tsinghua University <i>PhD in Computer Science and Technology, supervised by Jun Zhu</i>	Sep 2019 – Now Beijing, China
Tsinghua University <i>BE in Computer Science and Technology</i>	Sep 2016 – Jul 2019 Beijing, China
Tsinghua University <i>BE in Civil Engineering</i>	Sep 2015 – Jul 2016 Beijing, China

Scientific Awards and Distinctions

‘84’ Future Innovation Scholarship	2020
Outstanding Graduates, Department of Computer Science and Technology, Tsinghua University	2019
The Mathematical Contest in Modeling, Meritorious Winner	2018
Chinese Mathematical Olympiad (CMO), Silver Medal	2014

Selected Research

DPM-Solver and DPM-Solver++ <ul style="list-style-type: none">• SOTA training-free fast sampler for diffusion models, within only 10 to 20 steps (compared to the default 1000-step setting).• Github Stars: 900+.• Widely-used in various text-to-image diffusion models, such as stable-diffusion v1 and v2, DreamStudio, StableBoost, Stable-Diffusion-WebUI, Apple’s Core ML library.	2022
ProlificDreamer <ul style="list-style-type: none">• SOTA text-to-3D generation with solely 2D diffusion models.	2023

Publications

Publications <ul style="list-style-type: none">• Cheng Lu*, Huayu Chen*, Jianfei Chen, Hang Su, Chongxuan Li, Jun Zhu. <i>Contrastive Energy Prediction for Exact Energy-Guided Diffusion Sampling in Offline Reinforcement Learning</i>. International Conference on Machine Learning (ICML), 2023.• Kaiwen Zheng*, Cheng Lu*, Jianfei Chen, Jun Zhu. <i>Improved Techniques for Maximum Likelihood Estimation for Diffusion ODEs</i>. International Conference on Machine Learning (ICML), 2023.• Huayu Chen, Cheng Lu, Chengyang Ying, Hang Su, Jun Zhu. <i>Offline Reinforcement Learning via High-Fidelity Generative Behavior Modeling</i>. International Conference on Learning Representations (ICLR), 2023• Cheng Lu, Yuhao Zhou, Fan Bao, Jianfei Chen, Chongxuan Li, Jun Zhu. <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>. Conference on Neural Information Processing Systems (NeurIPS), 2022. (Oral, Accept rate ~1.7%)• Cheng Lu, Kaiwen Zheng, Fan Bao, Chongxuan Li, Jianfei Chen, Jun Zhu. <i>Maximum Likelihood Training for Score-Based Diffusion ODEs by High Order Denoising Score Matching</i>. International Conference on Machine Learning (ICML), 2022.• Cheng Lu, Jianfei Chen, Chongxuan Li, Qiuhan Wang, Jun Zhu. <i>Implicit Normalizing Flows</i>. International Conference on Learning Representations (ICLR), 2021. (Spotlight (Accept rate ~5.5%))• Jianfei Chen, Cheng Lu, Biqi Chenli, Jun Zhu, Tian Tian. <i>VFlow: More Expressive Generative Flows with Variational Data Augmentation</i>. International Conference on Machine Learning (ICML), 2020.	
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Preprints

- **Cheng Lu**, Yuhao Zhou, Fan Bao, Jianfei Chen, Chongxuan Li, Jun Zhu. *DPM-Solver++: Fast Solver for Guided Sampling of Diffusion Probabilistic Models*.
- Zhengyi Wang*, **Cheng Lu***, Yikai Wang, Fan Bao, Chongxuan Li, Hang Su, Jun Zhu. *ProlificDreamer: High-Fidelity and Diverse Text-to-3D Generation with Variational Score Distillation*.

Invited Talks

Fuxi AI Lab, NetEase <ul style="list-style-type: none">• <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>	Feb 2023
“Xingqi Talk”, Shanghai AI Lab <ul style="list-style-type: none">• <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>	Nov 2022
ByteDance <ul style="list-style-type: none">• <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>	Nov 2022
DAMO lab, Alibaba <ul style="list-style-type: none">• <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>	Nov 2022
Ji-Qi-Zhi-Xin Live <ul style="list-style-type: none">• <i>DPM-Solver: A Fast ODE Solver for Diffusion Probabilistic Model Sampling in Around 10 Steps</i>	Nov 2022

Services

- Reviewer: ICML, NeurIPS, ICLR, CVPR, ICCV
- Contributor of `huggingface/diffusers`

Technical Skills

Languages: Java, Python, JavaScript, HTML/CSS

Frameworks: Node.js, Flask, Vue.js

Personal

- I'm a bass singer in Chorus of Tsinghua University with a vocal range of C2-E4 (where C2 is also known as “low C”). I won the **top ten compus singers competition of Tsinghua University** in 2019 by singing a famous song *Autumn Leaves*. I love singing!