XIANZHEN LUO

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EDUCATION

Harbin Institute of Technology **Harbin, China**
Ph.D. Student in Code LLMs Sep 2022 – Present
Supervisor: *Prof. Wanxiang Che and Assoc. Prof. Qingfu Zhu*

- **Honors**: National Scholarship, ACL 2025 Outstanding Paper

Harbin Engineering University **Harbin, China**
Bachelor in Computer Science Sep 2018 – Jun 2022

- **Honors**: National Scholarship, 2 x ICPC Regional Silver Medals, 2 x ICPC EC-Final Bronze Medals.

EXPERIENCE

Kuaishou Technology **Beijing, China**
Kstar *Research Intern* Aug 2025 – Mar 2026

- Developed a Multi-Agent Framework (CVE-Factory) from scratch to scale terminal environments for code security. Fully automated collection, construction, testing, and evaluation without human intervention.
- Cross-validated with expert manual reproduction, achieving over 95% consistency. Supports asynchronous parallelism, generating 215 tasks in under 5 hours with 20 parallel on a single machine (vs. 10 hours per task for experts).
- Scaled to 4k+ high-quality vulnerability repair tasks. The performance of finetuned Qwen3-32B improved 5x, is comparable to Minimax-M2.7 and Claude Sonnet 4. Demonstrated strong generalization on TerminalBench and cross-language settings.

StepFun AI. **Beijing, China**
Pretrain Research Intern Dec 2024 – Jul 2025

- Developed and cleaned full-scale GitHub file & issue data from scratch. Further refined filter rules to remove garbled text, significantly reducing loss spikes.
- Conducted experiments on code data with FIM, Meta Info, MTP, and Focal Loss strategies.
- Explored and validated Scaling Laws for Code. Under certain constraints, prediction error was less than 0.1%.
- Discovered a logarithmic relationship between code compression ratio and downstream code task performance.

Du Xiaoman (Beijing) Science Technology Co., Ltd. **Beijing, China**
University-Industry Collaboration Researcher Nov 2023 – Sep 2024

- Synthesized code SFT data from the perspectives of correctness and detail sensitivity, achieving SOTA on small LLMs.
- Leveraged multilingual programming languages to assist reasoning, yielding consistent improvements across benchmarks and LLMs.
- Achieved 2x lossless acceleration with only 2MB extra storage by exploiting vocabulary distributions from LLM decoding, outperforming prior train-free speculative decoding methods by over 30%.

FIRST-AUTHOR PUBLICATIONS

Arxiv **CVE-Factory: Scaling Expert-Level Agentic Tasks for Code Security Vulnerability**
Xianzhen Luo∗, *Jingyuan Zhang∗, Shiqi Zhou∗, Rain Huang∗, Chuan Xiao, Qingfu Zhu, Zhiyuan Ma, Xing Yue, Yang Yue, Wencong Zeng, Wanxiang Che*

ACL 2026 **Scaling Laws for Code: A More Data-Hungry Regime**
Xianzhen Luo∗, *Wenzhen Zheng∗, Qingfu Zhu, Rongyi Zhang, Houyi Li, Siming Huang, Yuantao Fan, Wanxiang Che*

ICLR 2026 **How Many Code and Test Cases Are Enough? Evaluating Test Cases Generation from a Binary-Matrix Perspective**
Xianzhen Luo∗, *Jinyang Huang∗, Wenzhen Zheng, Qingfu Zhu, Mingzheng Xu, Yiheng Xu, Yuantao Fan, Libo Qin, Wanxiang Che*

🏆 ACL 2025 Outstanding Paper **Turning Trash into Treasure: Accelerating Inference of Large Language Models with Token Recycling**
Xianzhen Luo, *Yixuan Wang, Qingfu Zhu, Zhiming Zhang, Xuanyu Zhang, Qing Yang, Dongliang Xu*

ACL 2025 **ChartCoder: Advancing Multimodal Large Language Model for Chart-to-Code Generation**
Xuanle Zhao∗, ***Xianzhen Luo∗****, Qi Shi, Chi Chen, Shuo Wang, Wanxiang Che, Zhiyuan Liu, Maosong Sun*

EMNLP 2024 **Python is Not Always the Best Choice: Embracing Multilingual Program of Thoughts**
Xianzhen Luo, *Qingfu Zhu, Zhiming Zhang, Libo Qin, Xuanyu Zhang, Qing Yang, Dongliang Xu, Wanxiang Che*

EMNLP 2024 **Make Some Noise: Unlocking Language Model Parallel Inference Capability through Noisy Training**
Yixuan Wang∗, ***Xianzhen Luo∗***, *Fuxuan Wei, Yijun Liu, Qingfu Zhu, Xuanyu Zhang, Qing Yang, Dongliang Xu, Wanxiang Che*

Arxiv **Is Compression Really Linear with Code Intelligence?**
Shijie Xuyang∗, ***Xianzhen Luo∗***, *Zheng Chu, Houyi Li, Siming Huang, Qiufeng Wang, Wanxiang Che, Qingfu Zhu, Shuigeng Zhou*

Arxiv **Success is in the Details: Evaluate and Enhance Details Sensitivity of Code LLMs through Counterfactuals**
Xianzhen Luo, *Qingfu Zhu, Zhiming Zhang, Mingzheng Xu, Tianhao Cheng, Yixuan Wang, Zheng Chu, Shijie Xuyang, Zhiyuan Ma, YuanTao Fan, Wanxiang Che*

Arxiv **Semi-Instruct: Bridging Natural-Instruct and Self-Instruct for Code Large Language Models**
Xianzhen Luo, *Qingfu Zhu, Zhiming Zhang, Xu Wang, Qing Yang, Dongliang Xu, Wanxiang Che*

OTHER PUBLICATIONS

ACL 2026 (Findings) **Format-Adapter: Improving Reasoning Capability of LLMs by Adapting Suitable Format**
Dingzirui Wang, Xuanliang Zhang, Rongyu Cao, Longxu Dou, ***Xianzhen Luo***, *Yingwei Ma, Qingfu Zhu, Wanxiang Che, Binhua Li, Fei Huang, Yongbin Li*

Survey **From Code Foundation Models to Agents and Applications: A Practical Guide to Code Intelligence**
Core Contributor

Tech Report **Step-3 is Large yet Affordable: Model-system Co-design for Cost-effective Decoding**
Core Contributor

📢 ACL 2025 Oral **OpenCoder: The Open Cookbook for Top-Tier Code Large Language Models**
Siming Huang, Tianhao Cheng, Jason Klein Liu, Weidi Xu, Jiaran Hao, Liuyihan Song, Yang Xu, Jian Yang, Jiaheng Liu, Chenchen Zhang, Linzheng Chai, Ruifeng Yuan, ***Xianzhen Luo***, *Qiufeng Wang, YuanTao Fan, Qingfu Zhu, Zhaoxiang Zhang, Yang Gao, Jie Fu, Qian Liu, Houyi Li, Ge Zhang, Yuan Qi, Xu Yinghui, Wei Chu, Zili Wang*

KDD 2025 **Advancing Tool-Augmented Large Language Models via Meta-Verification and Reflection Learning**
Zhiyuan Ma, Jiayu Liu, ***Xianzhen Luo***, *Zhenya Huang, Qingfu Zhu, Wanxiang Che*

ACL 2025 (Findings) **ChartEdit: How Far Are MLLMs From Automating Chart Analysis? Evaluating MLLMs' Capability via Chart Editing**
Xuanle Zhao∗, Xuexin Liu∗, Yang Haoyue∗, ***Xianzhen Luo***, *Fanhu Zeng, Jianling Li, Qi Shi, Chi Chen*

COLING 2024 **A Survey on Natural Language Processing for Programming**
Qingfu Zhu, ***Xianzhen Luo***, *Fang Liu, Cuiyun Gao, Wanxiang Che*

ACL 2022 (Findings) **Inverse is Better! Fast and Accurate Prompt for Few-shot Slot Tagging**
Yutai Hou, Cheng Chen, ***Xianzhen Luo***, *Bohan Li, Wanxiang Che.*

AI Open 2022 **Augmented and challenging datasets with multi-step reasoning and multi-span questions for Chinese judicial reading comprehension**
Qingye Meng, Ziyue Wang, Hang Chen, ***Xianzhen Luo***, *Baoxin Wang, Zhipeng Chen, Yiming Cui, Dayong Wu, Zhigang Chen, Shijin Wang*

Arxiv **Automated Snippet-Alignment Data Augmentation for Code Translation**
Zhiming Zhang, Qingfu Zhu, ***Xianzhen Luo***, *Yixuan Wang, Bohan Li, Wanxiang Che*

PROJECTS

Huozi: An Open-Source Universal LLM | ⑂ 12 ☆ 200 Mar 2023 – May 2023
- Served as a core developer, responsible for the collection and curation of data for code pretraining and post-training.
- Led the collection and organization of Chinese pretraining datasets.

Abacus: A Lightweight Code LLM | ⑂ 2 ☆ 47 Oct 2023 – Sep 2024
- Abacus with 2.7B parameters, outperforms other Code LLMs with parameters ≤3B such as Stable Code-3B and Granite-3B-Code on both coding and general language tasks.
- Led post-training data construction.

*This document was last updated on 2026-04-14 using Typst.