

ZHAOYANG CHU

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RESEARCH INTEREST

My research interest focuses on the intersection of **software engineering** and **machine learning**, aimed at building next-generation AI agents that make code smarter, more trustworthy, and more accessible.

EDUCATION

University College London

Ph.D. in Computer Science

Sep 2025 – Sep 2028 (anticipated)

Huazhong University of Science and Technology

M.E. in Computer Science and Technology (*Graduated with Honors*)

GPA: 3.53/4.0

Sep 2022 – Jun 2025

Huazhong Agricultural University

B.E. in Data Science and Big Data Technology (*Graduated with Honors*)

GPA: 3.93/4.0

Sep 2018 – Jun 2022

RESEARCH PAPERS

* indicates equal contribution. † indicates the corresponding author.

- [1] Scrub It Out! Erasing Sensitive Memorization in Code Language Models via Machine Unlearning.
Zhaoyang Chu, Yao Wan†, Zhikun Zhang, Di Wang, Zhou Yang, Hongyu Zhang, Pan Zhou, Xuanhua Shi, Hai Jin, David Lo.
ICSE 2026, CORE A*.
- [2] CODESYNC: Synchronizing Large Language Models with Dynamic Code Evolution at Scale.
Chenlong Wang*, **Zhaoyang Chu***, Zhengxiang Cheng*, Xuyi Yang, Kaiyue Qiu, Yao Wan†, Zhou Zhao, Xuanhua Shi, Dongping Chen.
ICML 2025, CORE A*.
- [3] Graph Neural Networks for Vulnerability Detection: A Counterfactual Explanation.
Zhaoyang Chu, Yao Wan†, Qian Li, Yang Wu, Hongyu Zhang, Yulei Sui, Guandong Xu, Hai Jin.
ISSTA 2024, CORE A.
- [4] How to Select Pre-Trained Code Models for Reuse? A Learning Perspective.
Zhangqian Bi, Yao Wan†, **Zhaoyang Chu**, Yufei Hu, Junyi Zhang, Hongyu Zhang, Guandong Xu, Hai Jin.
SANER 2025, CORE A.
IEEE TCSE Distinguished Paper Award.
- [5] Can Large Language Models Serve as Evaluators for Code Summarization?
Yang Wu, Yao Wan†, **Zhaoyang Chu**, Wenting Zhao, Ye Liu, Hongyu Zhang, Xuanhua Shi, Philip S. Yu.
IEEE Transactions on Software Engineering (TSE), CORE A*, Impact Factor 6.5.
- [6] Wait, We Don't Need to "Wait"! Removing Thinking Tokens Improves Reasoning Efficiency.
Chenlong Wang, Yuanning Feng, Dongping Chen, **Zhaoyang Chu**, Ranjay Krishna, Tianyi Zhou†.
EMNLP 2025 Findings, CORE A*.
- [7] TESTEVAL: Benchmarking Large Language Models for Test Case Generation.
Wenhan Wang*, Chenyuan Yang*, Zhijie Wang*, Yuheng Huang, **Zhaoyang Chu**, Da Song, Lingming Zhang, An Ran Chen, Lei Ma.
NAACL 2025 Findings, CORE A.
- [8] Hierarchical Graph Representation Learning for the Prediction of Drug-Target Binding Affinity.
Zhaoyang Chu*, Feng Huang*, Haitao Fu, Yuan Quan, Xionghui Zhou, Shichao Liu, Wen Zhang†.
Information Sciences, CORE A, Impact Factor 8.1.

RESEARCH EXPERIENCE

Research Intern

May 2024 – Jun 2025

University of Illinois Urbana-Champaign, advised by Prof. Lingming Zhang

Test Case Generation (NAACL 2025 Findings)

- *Propose a novel benchmark that evaluates LLMs' capabilities in generating test cases for Python programs.*

Compiler Fuzzing (Ongoing)

- *Develop an LLM-based mutation fuzzing framework for LLVM compilers with integrated domain knowledge.*

Master Research Assistant

Sep 2022 – Jun 2025

Huazhong University of Science and Technology, advised by Prof. Yao Wan

Machine Unlearning for code LLMs (ICSE 2026)

- *Develop a privacy-preserving method to erase sensitive information from code LLMs via machine unlearning.*
- *Collaborated with Prof. David Lo at Singapore Management University.*

LLM Synchronization with Code Evolution (ICML 2025)

- *Propose a novel benchmark to evaluate LLMs' synchronization with real-time library API updates.*
- *Collaborated with Prof. Zhou Zhao at Zhejiang University.*

Counterfactual Vulnerability Detection (ISSTA 2024)

- *Design a counterfactual explainer to uncover the decision mechanisms of GNN-based detection systems.*
- *Collaborated with Prof. Yulei Sui at University of New South Wales.*

Code LLM Selection (SANER 2025 Distinguished Paper)

- *Propose learning-based methods for efficiently selecting and reusing pre-trained code LLMs for target software engineering tasks within limited computational budgets.*
- *Collaborated with Prof. Hongyu Zhang at Chongqing University.*

LLM-as-a-Judge for Code Summarization (TSE)

- *Develop an LLM-based evaluator to assess the quality of code summaries generated by neural models.*
- *Collaborated with Prof. Philip S. Yu at University of Illinois at Chicago .*

Efficient Reasoning for LLMs (EMNLP 2025 Findings)

- *Propose a novel approach that disables explicit self-reflection by suppressing "Wait"-like tokens during inference.*
- *Collaborated with Prof. Ranjay Krishna at University of Washington.*

Counterfactual Prompting for Code Generation (ACL 2025 Submission)

- *Design a counterfactual explainer to guide developers in assessing and refining prompt design for code generation.*

Undergraduate Research Assistant

Sep 2018 – Jun 2022

Huazhong Agricultural University, advised by Prof. Wen Zhang

Drug-Target Binding Affinity Prediction (Information Sciences)

- *Build a hierarchical GNN to integrate coarse- and fine-grained information from affinity graphs and molecular graphs in a coarse-to-fine manner.*

HONORS & AWARDS

IEEE TCSE Distinguished Paper Award

2025