Boyang Yang

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Education

Yanshan University, Ph.D. Candidate in Computer Technology 2022 – Present
- Research focus: software engineering and program repair with large language models

Beihang University, M.S. in Computer Technology 2015 – 2018
- Thesis: Online user identification through code-editing behavior

Beihang University, B.S. in Computer Science and Technology 2009 – 2013
- ACM ICPC World Finals qualifier; multiple university and Huawei scholarships

Professional Experience

Beijing JudaoYouda Network Technology, Chief Technology Officer 2015 – Present
- Lead R&D for *Jisuanke* cloud programming education and competition platform, serving 400,000+ users
- Developed AST-based code equivalence check engine (ASTEC) that cut code-analysis latency by 40%
- Organized 8 nationwide *JiSuanZhiDao (the way of computing)* contests in partnership with Alibaba, Tencent, etc.
- Guided AI strategy; integrated LLM-based code repair that raised course completion by 23%
- Manage IP portfolio: six patent filings, two granted

Wuhan University, External Mentor, School of Cyber Science and Egineering 2021 – Present
- Design and teach mandatory summer course “Security Maker Practice Training”

Sina Corporation, Advertising Algorithm Engineer 2013 – 2015
- Split global LR CTR model into per-placement models, boosting AUC on key slots
- Implemented FTRL optimizer in Vowpal Wabbit and automated feature selection
- Built position-bias correction for text-link ads and a real-time CTR pipeline with two-minute refresh

Selected Publications

- Boyang Yang *et al.* “Cref: An LLM-Based Conversational Software Repair Framework for Programming Tutors.” *Proc. 33rd ACM SIGSOFT Int. Symposium on Software Testing and Analysis (ISSTA 2024)*.
- Boyang Yang *et al.* “MORepair: Teaching LLMs to Repair Code via Multi-Objective Fine-Tuning.” *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 2025.
- W. Luo, J Keung, Boyang Yang *et al.* “When Fine-Tuning LLMs Meets Data Privacy: An Empirical Study of Federated Learning in LLM-Based Program Repair.” *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 2025.
- H. Yu, Boyang Yang. “Design and Practice of Software Engineering Practical Training.” *Experimental Technology and Management*, 2018.
- D Fu, Y Xu, H Yu, Boyang Yang. "WASTK: A Weighted Abstract Syntax Tree Kernel Method for Source Code Plagiarism Detection.” *Scientific Programming*, 2017.
- C Mao, H Yu, J Shi, T Cai, Boyang Yang. "Automated Interactive Visualization on Abstract Concepts in Computer Science" *Annual International Conference on Computer Science Education: Innovation and Technology*, 2016.

Book

- *Easy Programming: A Zero-Foundation C++ Primer for K-12 Students*. Tsinghua University Press, 2021, chief editor.

Patents

- **Software Defect Automatic Repair Method, Apparatus, Device, and Storage Medium**. CN120066836A, 2025.
- **Human-AI Collaborative Program Repair Method Based on Large Language Models**. CN119512949A, 2024.
- **Minimized-Modification Program Repair Method Based on Large Language Models**. CN119415074A, 2024.
- **Code Plagiarism Detection Method Based on Weighted Abstract Syntax Tree**. CN115062600A, 2022.
- **User Identification Method Based on Code Editing Operations**. CN114881107A, 2022.
- **Automated Evaluation Method and System Based on Directed Acyclic Graphs and Topological Sorting**. CN107292464A, 2020.
- **Abstract Concept Visualization Interaction Method and System Based on Free Component Structure**. CN106201263A, 2019.

Honors & Awards

- ACM-ICPC Asia Gold Medal, World Final rank 27 (2013)
- First Prize, MOE Cybersecurity Industry-Academia Cooperation Excellence (2022)
- Lanqiao Cup National Software Design Champion, Group A (2012)