

EDUCATION

<b>The Hong Kong University of Science and Technology (Guangzhou)</b> <i>Doctor of Philosophy (Microelectronics)</i>	<i>Aug 2022 - Now</i>
<b>Nanyang Technological University, Singapore</b> <i>Master of Science (Electronics)</i>	<i>Jan 2021 – Mar 2022</i>
<b>Henan University, China</b> <i>Bachelor of Science (Electronic Information Science and Technology)</i>	<i>Aug 2016 – Jun 2020</i>

PROJECTS

<b>Formal-assisted Stimuli Generation for RTL Valiation</b> - Develop an innovative formal method to generate high-quality stimuli, achieving superior RTL branch coverage - Optimize the process through advanced techniques including automatic warm-state selection and assertion ordering	<i>June 2024 - Now</i>
<b>Word-level Counterexample Reduction and Generalization</b> - Develop two word-level counterexample reduction methods to help human engineers better pinpoint the bugs - Integrate our reduction methods into three applications to speed up the word-level verification process	<i>Mar 2023 - Sep 2024</i>
<b>Word-Level Property Augmentation</b> - Automatically summarize potential word-level properties via learning from the simulation traces - Accelerate formal proof by augmenting the target property with generated properties	<i>Sep 2023 - May 2024</i>
<b>Solving the SAT Problem via Machine Learning</b> - Develop a model with the sequential prediction capability, which can predict a correct satisfying assignment for the symmetric Boolean formula - Integrate our model into the traditional SAT-solving process to improve the solving efficiency	<i>Mar 2022 - Sep 2023</i>
<b>PUF Labels Recognition via Machine Learning</b> - Design a model to process the classification task of the liquid crystal droplet. Each droplet is a PUF label - Deploy the environment on the Colab and achieve better performance compared to the baselines	<i>May 2021 - Sep 2021</i>

PUBLICATIONS

Word-Level Counterexample Reduction Methods for Hardware Verification (DATE), 2025. <i>Zhiyuan Yan, and Hongce Zhang</i>
AssertLLM: Generating Hardware Verification Assertions from Design Specifications via Multi-LLMs. (ASP-DAC), 2025. <i>Zhiyuan Yan, Wenji Fang, Mengming Li, Min Li, Shang Liu, Zhiyao Xie, and Hongce Zhang</i>
Word-Level Augmentation of Formal Proof by Learning from Simulation Traces. (ICCAD), 2024. <i>Zhiyuan Yan, and Hongce Zhang</i>
AsymSAT: Accelerating SAT Solving with Asymmetric Graph-based Model Prediction. (DATE), 2024. <i>Zhiyuan Yan, Min Li, Zhengyuan Shi, Wenjie Zhang, Yingcong Chen, and Hongce Zhang</i>
The Elephant in the Room: Variable Dependency in GNN-based SAT Solving. First International Workshop on Deep Learning-aided Verification. 2023. <i>Zhiyuan Yan, Min Li, Zhengyuan Shi, Wenjie Zhang, Yingcong Chen, and Hongce Zhang</i>
Multicolor Light Mixing in Optofluidic Concave Interfaces for Anticounterfeiting with Deep Learning Authentication[J]. ACS Applied Materials Interfaces, 2022. <i>Chenlu Wang, Zhiyuan Yan, Chaoyang Gong, Hui Xie, Zhen Qiao, Zhiyi Yuan, and Yu-Cheng Chen</i>

TECHNICAL SKILLS

- Programming: Python, Verilog, C primer plus, Matlab
- Language: Proficient in English( IELTS: 6.5), Mandarin, Cantonese
- Software & Operating System: MicroSoft Office, Latex, LINUX
- Tools: Yosys, Berkeley-abc, Jaspergold

AWARDS

- 2022-2026: Full Postgraduate Studentship, HKUST(GZ)
- 2019-2020: Triple-A Student of Henan University, the scholarship at school level, Third Prize of Academic Scholarship of Miami College
- 2018-2019: Triple-A Student of Henan University, First Prize of Academic Scholarship of Miami College, “Blue Bridge Cup MCU Competition” Provincial Second Prize
- 2017-2018: Triple-A Student of Henan University, the scholarship at school level, Second Prize of Academic Scholarship of Miami College