陈子豪

邮箱：zihaochen@fudan.edu.cn | 主页：https://zhchenfdu.github.io

研究经历

阿里巴巴达摩院 2026.08 – 至今

算法专家，复旦大学联合培养博士后 ✦阿里星

- **研究方向：**大语言模型（LLM）智能体、智能体自演化（Agent Self-Evolution）与递归自我改进（RSI），探索其在电子设计自动化（EDA）、量化金融等复杂垂类领域中的知识挖掘与深度应用。

复旦大学，集成芯片与系统全国重点实验室 2021.02 – 2026.06

博士研究生 ✦指导教师：杨帆教授、尚笠教授、曾璇教授

- **研究方向：**面向 EDA 的大模型训练、多智能体系统与强化学习（RL）方法，涵盖模拟电路自动综合与参数设计、RTL 硬件代码生成及物理设计自动化，成果发表于 TCAD、TODAES、DAC、ICCAD、DATE、ASPDAC 等期刊与会议。

教育经历

复旦大学 2021.09 – 2026.06

理学博士，电子科学与技术（硕博连读） ✦上海市优秀毕业生

复旦大学 2017.09 – 2021.06

工学学士，微电子科学与工程

学术论文

Zihao Chen, Jiayin Wang, Ziyi Sun, Ji Zhuang, Jinyi Shen, Xiaoyue Ke, Li Shang, Xuan Zeng, and Fan Yang, *"LLM-Assisted Op-Amp Behavioral-Level Design via Agentic Human-Mimicking Reasoning,"* arXiv preprint, 2026.

Zihao Chen, Chung-Kuan Cheng, Yuhao Ren, Yucheng Wang, and Zhiang Wang, *"AutoDRI: Bridging the Semantic Gap for Automated Design Rule Integration in CP-SAT-Based Cell Synthesis under Multi-Patterning,"* IEEE/ACM International Conference on Computer-Aided Design (ICCAD), 2026.

Zihao Chen, Ji Zhuang, Jinyi Shen, Xiaoyue Ke, Xinyi Yang, Mingjie Zhou, Zhuoyao Du, Xu Yan, Zhouyang Wu, Zhenyu Xu, Jiangli Huang, Li Shang, Xuan Zeng, and Fan Yang, *"Dataset Construction for Training LLM to Learn Analog Circuit Knowledge,"* ACM Transactions on Design Automation of Electronic Systems (TODAES), 2026.

Zihao Chen, Zihan Lin, Xinhua Chen, Zhiyi Liu, Changxu Liu, Yifan Song, Yuxuan Qiao, Junjie Zuo, Yifei Feng, and Fan Yang, *"Spec2Doc2RTL: RTL Generation from Specification with Natural Language Representation,"* International Symposium of Electronic Design Automation (ISEDA), 2025.

Zihao Chen, Jiangli Huang, Yiting Liu, Fan Yang, Li Shang, Dian Zhou, and Xuan Zeng, *"Artisan: Automated Operational Amplifier Design via Domain-specific Large Language Model,"* Design Automation Conference (DAC), 2024.

Zihao Chen, Songlei Meng, Fan Yang, Li Shang, and Xuan Zeng, *"MACRO: Multi-agent Reinforcement Learning-based Cross-layer Optimization of Operational Amplifier,"* Asia and South Pacific Design Automation Conference (ASPDAC), 2024.

Zihao Chen, Songlei Meng, Fan Yang, Li Shang, and Xuan Zeng, *"TOTAL: Topology Optimization of Operational Amplifier via Reinforcement Learning,"* International Symposium on Quality Electronic Design (ISQED), 2023.

Zihao Chen, Fan Yang, Li Shang, and Xuan Zeng, *"Automated and Agile Design of Layout Hotspot Detector via Neural Architecture Search,"* Design, Automation and Test in Europe (DATE), 2023.

Jinyi Shen, **Zihao Chen**, Ji Zhuang, Jiangli Huang, Fan Yang, Li Shang, Zhaori Bi, Changhao Yan, Dian Zhou, and Xuan Zeng, *"Atelier: An Automated Analog Circuit Design Framework via Multiple Large Language Model-based Agents,"* IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 2025.

Zhengqi Gao, **Zihao Chen**, Jun Tao, Yangfeng Sun, Dian Zhou, and Xuan Zeng, *"Bayesian Inference on Introduced General Region: An Efficient Parametric Yield Estimation Method for Integrated Circuits,"* Asia and South Pacific Design Automation Conference (ASPDAC), 2021.

Zheng Wu, Zhuochu Yang, Zhuoyuan Yang, **Zihao Chen**, Li Shang, and Fan Yang, *"ChatArch: A Knowledge-based Graph-of-thought LLM Framework for Processor Architecture Design,"* ACM Transactions on Design Automation of Electronic Systems (TODAES), 2026.

Ji Zhuang, Zishuo Wang, Jinyi Shen, **Zihao Chen**, and Fan Yang, *"GRASP: A Gm/Id-based Multi-Agent Reasoning Framework for Sizing Parameters in Amplifiers,"* IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS), 2026.

Zheng Wu, Zhuochu Yang, Zhuoyuan Yang, **Zihao Chen**, Li Shang, and Fan Yang, *"ArchBot: A Labour-free Processor Architecture Design Framework via Experienced LLM,"* International Symposium of Electronic Design Automation (ISEDA), 2025.

开源项目

White-Op

面向运算放大器行为级参数设计的白盒化智能体框架。White-Op 将符号推理与数值求解解耦并结合因果驱动迭代机制，模拟人类解析推导流程，在多种运放拓扑上实现高可解释性与高可靠性的自动设计。

GRASP

基于 gm/Id 方法论的多智能体运放尺寸设计框架。GRASP 融合思维链公式推导与设计、计算、仿真、修正多智能体协作，实现快速收敛、更优增益-带宽-功耗折衷及可解释的修改轨迹。

Atelier

面向模拟电路自动设计的免训练多智能体框架。在 Artisan 基础上，Atelier 将模拟电路设计经验凝练为紧凑知识库，通过多智能体协同推理在免微调条件下实现高性能与高成功率的自动设计。

主要荣誉

上海市优秀毕业生（Top 1%）	2026
复旦大学中芯国际奖学金（Top 1%）	2025
国际学术竞赛 AICAS Grand Challenge 2025（Track 3）Global 2nd Prize	2025
复旦大学优秀学生	2019, 2020, 2021, 2022, 2024, 2025
复旦大学 KLA 奖学金（Top 1%）	2023
复旦大学优秀助教	2023
复旦大学一等奖学金（Top 5%）	2019
全国大学生数学建模竞赛一等奖（上海赛区）（Top 3%）	2019

学术服务

审稿人，*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*	2025 至今
审稿人，*ACM Transactions on Design Automation of Electronic Systems (TODAES)*	2024 至今
代理分会主席 & 演讲者，*International Symposium of Electronic Design Automation (ISEDA)*	2025
审稿人，*International Symposium of Electronic Design Automation (ISEDA)*	2025
审稿人，*IEEE International Conference on ASIC (ASICON)*	2025
组织者 & 演讲者，2024 1st LLM for EDA Summer School，复旦大学	2024

教学服务

复旦大学

助教，大语言模型在电子系统设计自动化中的应用（授课教师：杨帆）	2025 春
助教，数字集成电路设计自动化基础（授课教师：杨帆）	2022–2025 春
助教，程序设计（授课教师：杨帆）	2021–2024 秋
助教，模拟电子学基础（授课教师：童立青）	2022 春
助教，计算机软件基础（授课教师：曾璇）	2022 春
讲师，本科生周末与期末编程辅导，腾飞书院	2022–2024 秋