Pan Guanyuan 潘冠源

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https://guanyuanpeterpan.github.io/

2023.12 - · · · · **Undergraduate Researcher,** Intelligent Information Processing Laboratory, Hangzhou Dianzi University
2025.09 - · · · · **Undergraduate Researcher,** The School of Electronics and Information, Hangzhou Dianzi University

Research Publications

1. **G. Pan** et al., *VLM-CAD: VLM-Optimized Collaborative Agent Design Workflow for Analog Circuit Sizing*, 2026. arXiv: 2601.07315.
2. **G. Pan** et al., "Graph Neural Networks Based Analog Circuit Link Prediction," *Engineering Applications of Artificial Intelligence*, 2025.

Project Experiences

2025.7 - 2025.11 **[Embodied Intelligence, VLA Training/Deploying, Simulated Robot Data Collecting/Cleaning]** Lead a team to remove the SEM-GD text attention block, retaining the image self-attention block to enhance image features and reduce redundant parameters, thereby increasing the success rate in single-task scenarios. Prune the parameter of $\pi_{0.5}$ from 3.3B to 991M. Employ an NVIDIA RTX4060 Laptop (with 8G of GRAM) to drive two PiPER robotic arms to complete five tasks. Collect and clean over 33,000 simulation data entries based on RoboTwin 2.0 for training and fine-tuning. Serve as the spokesperson of the team.

2025.06 - 2025.09 **[Time-Series Forecasting, Lithium-ion Battery Safety]** Collaborate with a team to apply ibm-granite/granite-timeseries-tspulse-r1 with sliding window + feature fusion to achieve early warning of thermal runaway in EV power batteries. Serve as the spokesperson of the team.

2024.08 **[Reinforcement Learning, Graph Neural Networks]** Conducted an in-depth study of reinforcement learning and graph neural networks. Develop a medical image segmentation method employing ViG-UNet with multi-fusion dense skip connection with two other undergraduate.
Deep Learning Summer Programme, University of Cambridge

2023.10 - 2024.07 **[Text Data Collection/Cleaning, Small Language Model, Plain RAG]** Co-work with three undergraduates and one graduates to build a tourism domain corpus dataset of Hangzhou, and employ it for an online tourism information Q&A service utilizing Qwen-1.8B-Chat, Bert-Chinese and DashVector.

Awards and Achievements

2025 **National Second Prize**, "AI+" Special Competition, The 19th "Challenge Cup" China Mobile National College Students Extracurricular Academic Science and Technology Works Competition
Sliver Prize, The 19th Zhejiang Provincial 'Challenge Cup' College Student Extracurricular Academic and Technological Works Competition
Honorable Mention (Top 22%), The 2025 MCM and ICM
2024 **National Third Prize**, Enterprise-Proposed Category of The 15th Students Service Outsourcing Innovation and Entrepreneurship Competition

Education

2023.09 - 2027.06 **Bachelor of Computer Science**, Hangzhou Dianzi University

Skills

Coding Python, LaTeX, Markdown …
Misc. Academic research, leadership, training, LaTeX typesetting and publishing.
Languages Strong reading, writing and speaking competencies for English, Mandarin Chinese and Cantonese Chinese.

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2023.12 - · · · · **本科生研究员**，杭州电子科技大学「智能信息处理实验室」
2025.09 - · · · · **本科生研究员**，杭州电子科技大学「电子信息学院（集成电路科学与工程学院）」

发表论文

1. **Guanyuan Pan**, S. Wang, Y. Lin, *et al.*, *VLM-CAD: VLM-Optimized Collaborative Agent Design Workflow for Analog Circuit Sizing*, 2026. arXiv: 2601.07315.
2. **Guanyuan Pan**, T. Zhou, J. Zhao, *et al.*, "Graph Neural Networks Based Analog Circuit Link Prediction," *Engineering Applications of Artificial Intelligence*, 2025.

项目经历

2025.07 - 2025.11 **[具身智能、VLA 训练与部署、机械臂仿真数据采集/清洗]** 领导团队移除 SEM-GD 文本注意力块，保留图像自注意力块以提升视觉特征，减少冗余参数量，提升单任务场景成功率；将 $\pi_{0.5}$ 参数量从 3.3B 剪枝至 991M；使用 NVIDIA RTX4060 Laptop（8G 显存）推理驱动两台 PiPER 机械臂完成 5 项任务；基于 RoboTwin 2.0 采集并清洗 33000+ 条仿真数据，用于训练与微调；任团队答辩人。
第十九届"挑战杯"中国移动全国大学生课外学术科技作品竞赛"人工智能 +"专项赛挑战赛道

2025.06 - 2025.09 **[时间序列预测、锂离子电池安全管控]** 与团队合作，应用 ibm-granite/granite-timeseries-tspulse-r1，使用滑动窗口 + 特征融合，实现新能源汽车动力电池热失控早期预警；向国家基础学科公共科学数据中心申请相关数据集 4 份；任团队答辩人。
浙江省第十九届"挑战杯"大学生课外学术科技作品竞赛主体赛

2024.08 **[强化学习、图网络]** 深入了解强化学习与图神经网络；与另外两名本科生共同开发一种基于 ViG-UNet 结合多融合密集跳跃连接的医学图像分割方法。
剑桥大学深度学习暑期项目

2023.10 - 2024.07 **[文本数据采集/清洗，小语言模型 (SLM)，Plain RAG]** 与三名本科生、一名研究生合作自建杭州旅游语料库，落地基于 Qwen-1.8B-Chat+Bert-Chinese+DashVector 的在线旅游问答。
第十五届中国大学生服务外包创新创业大赛全国赛

所获奖项

2025 **国家二等奖**, 第十九届"挑战杯"中国移动全国大学生课外学术科技作品竞赛"人工智能 +"专项赛挑战赛道
银奖, 浙江省第十九届"挑战杯"大学生课外学术科技作品竞赛主体赛
H 奖（前 22%）, 2025 MCM/ICM 美国大学生数学建模竞赛
2024 **国家三等奖**（企业命题类）, 第十五届中国大学生服务外包创新创业大赛

教育经历

2023.09 - 2027.06 **计算机科学与技术（学士）**，杭州电子科技大学

技能

Coding Python, LaTeX, Markdown …
Misc. 学术研究、领导力、算法训练、文档/论文排版及刊发
语言能力 熟练使用英语 (CET6 660+)，中文（普通话及粤语）。