

Siyao Lan

CURRICULUM VITAE / RESEARCH & CREATIVE WORK

Undergraduate in Computer Science and Technology · Entered 2025
China University of Geosciences, Beijing

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RESEARCH INTERESTS

AI representation and reasoning; runtime assurance for embodied intelligence; automated research; optimization and search.

EDUCATION

2025 - present **China University of Geosciences, Beijing**
Undergraduate · Computer Science and Technology
Entered in 2025. Pursuing AI research, research-tool development and literary writing.

RESEARCH & WORKING MANUSCRIPTS

- Current

Sentinel-EVC
Project lead · Open research prototype and controlled simulation
Connects final-action validation, one-use execution permits and independent verification; studies UR5e simulation and offline VLA, with a read-only robot entry point.
- Current

Attractor-JEPA
Latent computation · Ongoing research
Explores compositional computation in latent representations, focusing on reasoning depth, state stability and learning.
- Current

CIDS-GA
Training mechanisms under investigation
Compares current and alternative operations at matched states, consolidates functionally tested repairs into parameters, and uses paired evaluation and rollback to protect prior capabilities.
- Current

Diagnosis-First Optimization · DFO
Working manuscript and research implementation
Diagnoses Walsh structure and variable interactions before choosing a solver; charges probes to the total evaluation budget and tests selection benefits against equal-budget controls.
- Current

Normalization: representation and feedback
Two theoretical manuscripts and controlled mechanism studies
Studies BN as representation selection and feedback tracking, testing mechanisms through forward-matched backward interventions and noise-model controls.
- Current

Initialization and Signal Propagation
Two theoretical manuscript and numerical-study branches
Studies input effective rank, covariance allocation and deep-ReLU signal propagation; current experiments establish no accuracy benefit from covariance shaping.

Other ongoing work: model collapse under recursive training, weak-feature detection in SAEs, and information bounds for label-to-trajectory channels.

RESEARCH TOOLS & ENGINEERING

Aletheia v7.3.0 / AutoResearch / Innovation Generator subproject

Selects research actions from evidence and rival explanations, updating questions through observed feedback and inspectable records.

Wenjie · Hilbertforge / Architecture and protocol design

Organizes literature tensions, problem certificates, prior-work checks and minimal experiments; currently architecture and protocols.

Lancer Fusion / Structural kernel prototype

Explores mappings and bridge recombination through typed scientific graphs, preserving validation, operations and lineage.

LSMFC / Toolchain version

Connects facts, arguments, prose and figures for evidence tracing and cross-checking.

Research Hub / Local workbench

Connects literature, candidates, refutations and frozen experiments, preserving sources and failures for subsequent work.

TEACHING & KNOWLEDGE SHARING

AI4Research & AI research introductions / Course design, lesson plans and prepared lectures

Develops human-AI research workflows and introductions to post-training, SFT/DPO/GRPO and world models, with exercises, counterexamples and research-question design.

PATENT

2026	Task-driven synthetic data generation under meta-context constraints and intent awareness / First inventor · Published
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LITERARY & PUBLIC WRITING

Civilization / Long-form fiction · In progress

Explores civilization, institutions and engineering through records, objects and ordinary people's choices; includes an outline, worldbuilding and draft chapters.

LancerUN / Public essays & reading

Writes about AI, education, reading and human experience; original essays and dates are collected in Writing.

TECHNICAL PRACTICE

Python · C · PyTorch · HTML / Research implementation & workflow development

Uses command-line tools, version control and AI collaborators to organize local research, literature, verification and engineering workflows.

Additional: 2026 Beijing OPC entrepreneurship competition, Third Prize (project lead); CUGB Yaolan Cup university contest, Bronze Award (Sentinel project lead); university-level Third Prizes in statistical and mathematical modeling; second-tier academic scholarship for the first semester of 2025-2026.

兰斯尧

研究与创造履历

中国地质大学（北京） · 计算机科学与技术本科 · 2025 级

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研究方向

AI 表征与推理；具身智能运行时保障；自动化科研；优化与搜索。

教育背景

2025 - 至今 **中国地质大学（北京）**
本科 · 计算机科学与技术
2025 级本科生，持续开展人工智能研究、研究工具建设与文学创作。

研究与工作稿

- 当前

临界哨兵 · Sentinel-EVC
项目负责人 · 开源研究原型与受控仿真
在最终动作、单次执行许可与独立核验之间建立证据链；开展 UR5e 仿真和离线 VLA 研究，机器人入口仍为只读诊断。
- 当前

Attractor-JEPA
潜空间计算 · 在研工作
研究隐状态中的可组合计算，关注推理深度、状态稳定性与学习机制。
- 当前

CIDS-GA
训练机制研究中
在相同状态上比较当前与替代操作，经功能检验后将修复固化进参数，并用配对评估与回退保护历史能力。
- 当前

Diagnosis-First Optimization · DFO
工作稿与研究实现
先诊断 Walsh 谱与变量交互结构，再选择求解方法；将诊断成本计入总预算，通过等预算对照检验方法选择的收益。
- 当前

归一化的机制：表示选择与反馈控制
两条理论工作稿与受控机制实验
从表示选择与反馈跟踪两个视角解释 BN，以前向匹配的反向干预和噪声模型对照检验机制。
- 当前

初始化与信号传播：各向异性的分配和深度的边界
两条理论工作稿与数值研究分支
研究输入有效秩、协方差分配和深 ReLU 的前后向传播边界；当前实验未建立协方差调整的精度收益。
- 其他在研方向：递归训练中的模型崩溃、SAE 弱特征检出，以及标签 - 轨迹信道的信息边界。

研究工具与工程

- Aletheia v7.3.0 / AutoResearch / 创新生成子项目

依据来源与竞争解释选择研究动作，用实际反馈更新问题，保留预算与记录。
- 问界 · Hilbertforge / 架构与协议设计

组织文献矛盾、问题证书、先前工作核查与最小实验；以架构和协议为主。
- Lancer Fusion / 结构内核原型

用类型化科学图探索结构映射与桥接重组，保留验证、操作与血缘。
- LSMFC / 工具链版本

连接事实、论证、文字与图形，支持证据追踪和图文交叉核查。
- Research Hub / 本地工作台

连接文献、候选、反驳与冻结实验，保留可继承的来源和失败原因。

课程与知识分享

- AI4Research 与 AI 研究导论材料 / 课程设计、教案与讲稿准备

整理人机协作科研流程，以及后训练、SFT/DPO/GRPO 和世界模型的研究导论，结合练习、反例与研究问题设计。

专利

2026 一种基于元背景约束与意图感知的任务驱动合成数据生成方法及系统 / 第一发明人 · 已公开

文学创作与公共写作

- 文明 / 长篇小说 · 创作中

通过档案、物件与普通人的选择展开文明、制度和工程的叙事；已有总纲、设定与章节正文。
- 旅泊人 · LancerUN / 公众号随笔与阅读

围绕 AI、教育、阅读与人的经验持续写作，原文与日期收录于写作栏目。

技术与实践工具

- Python · C · PyTorch · HTML / 研究实现与 workflow 开发

结合命令行、版本管理与 AI 协作工具，组织本地研究、文献、验证和工程流程。

补充经历：2026 年北京 OPC 创业大赛三等奖（项目负责人）；中国地质大学（北京）摇篮杯校赛铜奖（临界哨兵项目负责人）；统计建模校赛三等奖、校内数学建模三等奖；2025 - 2026 学年第一学期专业二等奖学金。