

Lu Jiadong

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EDUCATION

National University of Singapore

Singapore

MSc in Biomedical Informatics(Specialisation: Analytics) ; GPA: 4.00/5.00

Aug 2025 – Jun 2026

Jilin University(Zhuhai)

Zhuhai, China

BSc in Data Science; GPA: 3.7/4.0 Outstanding Graduate

Sep 2020 – Jun 2024

EXPERIENCE

Jiusong Health Technology Co., Ltd.

Zhuhai, China

AI Agent Engineer

Jul 2024 – Aug 2025, Full-time

- **Application Development:** Participated in the development of a chronic disease management agent console based on Vue3 and TypeScript, covering the Dashboard dialogue monitoring, the “care calendar” configuration panel, and workflow configuration for individual care tasks, supporting visual orchestration and operational management; In parallel, implemented the frontend of AI service activation workflows in the WeChat Mini Program. Collaborated closely with backend services based on Node.js [Github](#) and RESTful APIs, and designed extensible JSON schema. Possess hands-on Cloud & DevOps experience, including EC2 and RDS provisioning, VPC network configuration, and built automated frontend-backend CI/CD pipelines using Jenkins.
- **Agent development:** Built a chronic disease management Agent on the Coze platform, orchestrating components including query rewriting, sub-intent recognition, hybrid retrieval, and prompt design to optimize the content generation pipeline, enabling stable interactions across multi-task scenarios. To address the limitation of general-purpose LLMs in filtering domain-critical information in chronic disease contexts, constructed a dataset from real multi-turn conversations focusing on key memorable metrics, and performed LoRA fine-tuning for use in the agent memory module; deployed the fine-tuned model via vLLM and integrated into the Agent system, improving key scenario-specific key information extraction accuracy by 30%. [HuggingFace](#)
- **Multi-Agent Design:** To address complex decision-making and long-term engagement requirements in chronic disease management, abstracted system requirements into three specialized sub-agents: Expert Agent(RAG), Care Execution Agent(Trigger), and Data Analysis Agent(MCP), proposed a multi-agent collaboration architecture and participated in the development of its core modules, effectively improving system stability and dialogue consistency in long-term interactions. (Paper under review)

PROJECTS

Collaborative LLM Interaction Policy Alignment (SFT + RLHF)

- Constructed high-quality multi-turn collaborative instruction data (code & math) using GPT as a teacher model, and performed full-parameter SFT on a 1.5B model, focusing on task-completion-oriented interaction strategies to provide a stable policy initialization for subsequent RL training.
- Designed a multiturn-aware reward using online dialogue simulation with an LLM-based user; introduced an exponential decay factor to penalize long trajectories, and incorporated LLM-as-Judge (Gemini API) to assess interaction quality, and applied Monte Carlo sampling to approximate expected rewards.
- Conducted comparative RL training using PPO / DPO / GRPO, achieving an 18% accuracy improvement on reasoning tasks over the base model and approximately 30% improvement in interaction-quality metrics.
- Tech Stack: HF Transformers & TRL, vLLM inference, Weights & Biases, FSDP distributed training.

Large-Scale Exhibition Review Topic Modeling & Analysis (NLP / Unsupervised Learning)

- Built an unsupervised topic modeling pipeline for exhibition reviews using embeddings → UMAP dimensionality reduction → HDBSCAN clustering, enabling automatic topic discovery. To mitigate topic fragmentation, introduced cluster-level similarity analysis based on cluster centroid embeddings, identifying semantically overlapping clusters for merging.
- Applied LLMs (Gemini API) in the post-clustering stage to generate unified topic labels and representative quotes, and produced topic-wise statistics and visualizations to support reporting and operational issue analysis.

Typhoon Track Analysis and Prediction in the Western Pacific (Spatiotemporal Modeling / Deep Learning)

- Processed historical typhoon track data from CMA, extracting features such as pressure and wind speed. Built interactive visualizations with ECharts to display annual typhoon frequency and average intensity.[Github](#)
- Integrated multi-source datasets from CMA and ERA5 (2000–2018); built a CNN–Transformer spatiotemporal encoder–decoder architecture and applied ensemble learning, outperforming the baseline in 24-hour trajectory forecasting [Publication](#); Developed an interactive typhoon track visualization system using PyQt5.[Github](#)

OTHER INFORMATION

Passion in software development: With contributions to open-source projects [Github 60 stars](#)

LLM Framework & Tools: OpenRLHF, Verl, LLama-Factory; Git, Docker, Postman, Overleaf, Trello, Miro