

# Curriculum Vitae

## Jiale Zhao

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## Professional Summary

I have two years of LLM algorithm internship experience, with strong coding and research skills in LLM and multimodal domains. Initiated ML research in a university lab (Freshman), conducted CV research (Sophomore Fall), transitioned to NLP research (Junior Spring), and gained industry experience as an LLM Algorithm Intern at Li Auto (Junior Year).

Key interests: 1) Agent-based LLMs; 2) Data & self-improving systems; 3) Human–LLM interaction; 4) Interpretability & analysis; 5) Benchmarks & evaluation; 6) Bridging research and real applications.

## Experience

### LLM Algorithm Intern — Li Auto (Sep 2023 – present · Beijing)

- Data Flywheel for Code LLM: Iterative cycle centered on evaluation (SFT → evaluation → data generation → filtering → back to SFT) to mass-produce high-quality training and evaluation data.
- Multi-step Reasoning + Tool Use Agent: Constructed SFT data for LLM Q&A, implemented API function calls, and solved complex reasoning problems through multi-step processes.
- MindGPTo: End-to-end multimodal app inspired by GPT-4o with paralinguistic features; built from scratch with modular FE/BE, large-scale audio data pipelines, and SFT to enhance conversational capabilities.

## Education

### Chongqing Univ. of Posts and Telecommunications — B.Eng., Algorithm Engineering (2021–2025)

Initiated ML research in a university lab (Freshman), conducted CV research (Sophomore Fall), transitioned to NLP research (Junior Spring), and gained industry experience as an LLM Algorithm Intern at Li Auto (Junior Year).

## **Publications (Under Review)**

- ThinkPilot (under review): Submitted to ACL 2025 via ARR (plan to resubmit to ACL 2025 after revision based on reviews). Contributions: experiment design and implementation; explainability integration; appendix and parts of main text.
- Decoding the Ear (under review): arXiv:2510.20513.
- ExpressiveSpeech Dataset: ~51h bilingual expressive speech (~14k utt.).

## **Research Directions**

### **Agent-based LLMs — Efficient Complex Problem Solving**

Many real-world problems require multi-source reasoning and dynamic user feedback. I focus on: 1) decomposing complex tasks; 2) time-frame mechanisms for updates and reflection; 3) coordinating several parallel smaller models (e.g., multiple 7B LLMs) to improve efficiency/accuracy at the same compute.

### **Self-Evaluation → Self-Improvement**

Three failure modes in code tasks: (1) inconsistently solved problems; (2) problems rarely solved spontaneously but solvable with simple hints; (3) problems needing complex guidance. Address via sampling, heuristics/self-guided strategies, and iterative evolution. Continuous improvement needs diverse fresh data and strong filtering; diverse, accurate test queries are critical.

### **Human–LLM Interaction — Enabling LLMs to Ask**

Enable models to challenge incorrect or contradictory information, detect and request missing conditions for underspecified problems, and proactively seek user assistance on hard tasks.

### **Interpretability & Analysis — Insight → Control → Safety**

Use deeper interpretability to develop more effective control over reasoning. Explore lightweight control modules trained on large response corpora to steer reasoning without modifying LLM weights.

### **Benchmarks & Evaluation — Making Benchmarks “Dumber”**

Transform single-turn benchmarks into simulated multi-turn interactions featuring omissions, errors, and colloquial phrasing; for knowledge tasks, intentionally vague queries requiring elicitation. Better matches real user inputs.

### **Bridging Research & Application**

Keep academic research grounded in real-world needs; pursue a PhD and future faculty path while collaborating with industry to overcome practical constraints like compute.