Availability: Immediate start – Dec 2026 (Long-term). **Schedule:** Part-time during academic terms; Full-time during semester breaks.

Ren Chunxiao (Elin)

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EDUCATION

National University of Singapore (NUS) -- *Singapore* | Expected: 2025.08-2026.12

- *MSc Master of computing (Specialization in Computer Science)*

Lappeenranta-Lahti University of Technology (LUT) -- *Finland* | 2022.09-2025.06

- *BSc Software & System Engineering (Double Degree) |Overall: GPA 4.95/5 (Top 5%)*

Hebei University of Technology (211) -- *China* | 2021.09-2025.06

- *BSc Computer Science (Double Degree)*

RESEARCH EXPERIENCE

Policy Evidence Knowledge Graph Platform | *Research Assistant* 2026.01-Present

- Architected a four-layer anti-hallucination pipeline (citation whitelist, direction-conflict detection, unit normalization, NLI / LLM-as-judge post-hoc review); the Agent accesses Neo4j only via a constrained KG API, keeping every answer traceable.
- Designed a 5-route retrieval system with GraphRAG-style global summarization and Query decomposition; complex queries split by driver entity into parallel Cypher subqueries, then deduplicated and merged for higher recall on multi-hop questions.
- Built a dual-track confidence scorer modeling evidence-side and answer-side signals, distinguishing Extract from Extrapolate claims; SQLite-persisted feedback drives offline OLS calibration with hot-reloaded weights.
- Shipped end-to-end ingestion and UI: async Python pipeline (PDF parsing, finding extraction, snippet linking, Neo4j ingestion, review export) plus a React + Vite frontend with SSE-streamed Q&A, force-graph visualization, and confidence cards.
- Deployed to public HTTPS on Vercel + Railway (FastAPI dual-service: KG API and Agent API) with Neo4j Aura; configured cross-service CORS, SSE proxy, environment management, and Git-push CI.

Quantitative Investment Multi-Agent System | *Research Assistant* 2025.08-2026.01

- Built a hierarchical multi-agent system on LangGraph (Market Analyst, Sentiment Analyst, Strategy Generator, Risk Manager), yielding a modular and auditable reasoning workflow.
- Designed a Bull-vs-Bear adversarial layer where opposing Agents produce structured long/short theses; a Risk Manager Agent applies constraint validation and strategy override, cutting single-view bias.
- Enforced JSON Schema + rule-based validation on all LLM outputs; parse or schema failures auto-fall back to a forced-Hold policy, eliminating malformed-output incidents.
- Implemented multi-tier fault tolerance (multi-source data fallback, Agent-level degradation, rule-based strategy substitution), keeping the pipeline live under upstream API outages.
- Optimized state management and flow orchestration for inter-Agent context passing, reducing error compounding in long-horizon reasoning chains.

INTERN EXPERIENCE

Beijing Seeyon Internet Software Corp. | *LLM Machine Learning Engineer Intern* Beijing, China | 2025.05 – 2025.08

- Built the full pipeline (requirement parsing, template retrieval, code generation, automated deployment) translating natural language into deployable Python; reduced manual configuration time by ~20% on representative scenarios.
- Designed an evaluation and prompt-optimization framework benchmarking Qwen, GLM, and DeepSeek on reasoning and code synthesis; structured prompts and few-shot constraints stabilized the internal CoMi Agent's output format and controllability.
- Improved code-gen quality via SFT with a custom training pipeline integrating an AST structural-constraint loss and a semantic-consistency loss, enforcing syntactic correctness and logic alignment over the CE-only baseline.

TECHNICAL SKILLS

- **Languages and Backend:** Python (asyncio / FastAPI / Flask / Pydantic), SQL, Cypher, Shell
- **LLM Application Eng.:** Prompt Engineering, Few-shot Design, JSON Schema-Based Structured Output and Validation, SSE Streaming, Multi-Layer Guardrails (Citation Whitelist, NLI, LLM-as-judge), Conservative Fallback
- **Agent and RAG Systems:** LangGraph, LlamaIndex; Hierarchical Multi-Agent Orchestration, Tool-Use, GraphRAG, Hybrid Retrieval (Dense + BM25 + Rerank), Query Decomposition
- **Full-Stack and Deploy:** React + Vite, Async Pipelines, FastAPI Multi-Service Architecture, Vercel / Railway / Neo4j Aura, Docker, Cross-Service CORS, SSE Proxying, HTTPS; PostgreSQL, Redis, SQLite