XIMEI YU

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EDUCATION

Harbin Institute of Technology **Aug 2022 - Jun 2026(expected)**
Bachelor of Management, Information Management and Information System
Courses: Probability Theory and Mathematical Statistics; Operations Research
Honors: The People's Scholarship in China

University of California, Berkeley **Aug 2024 - Dec 2024**
Berkeley Global Access Program
COMPSCI 61A: The Structure and Interpretation of Computer Programs
COMPSCI 61B: Data Structures
INDENG 174: Simulation for Enterprise-Scale Systems

RESEARCH and PROJECTS

Final Year Project **HIT, Harbin**
Calibrated SLM-Agent for SCM In Progress

- Developing a Neuro-Symbolic agent framework to translate unstructured SCM requests into executable optimization blueprints for OR-Tools and **SimPy**.
- Architecting a two-stage (**SFT + RL**) training pipeline to combat "structured hallucination" and ensure verifiable reliability.
- Designing and implementing a novel Verification-Driven RL pipeline using a "programmatic referee" to automatically validate logical consistency and reward meta-cognitive honesty.

Project (Simulation for Enterprise-Scale Systems) **Berkeley, CA**
Evaluating the Efficiency of the Smart Pass System Fall 2024

- Developed an original research proposal to assess the impact of the Smart Pass system at Incheon International Airport on congestion, waiting times, and passenger flow.
- Designed and implemented a **discrete-event simulation** model to evaluate the effectiveness of Smart Pass lanes compared to manual pass lanes at security checkpoints.
- Conducted **scenario analysis** to examine the impact of Smart Pass adoption rates and gate closures on overall airport operations and passenger throughput.
- Proposed actionable recommendations for improving airport efficiency, reducing waiting times, and optimizing the allocation of security checkpoint resources.

Project (Data Structures) **Berkeley, CA**
2D World Exploration Engine Fall 2024

- Owned the core system architecture, designing a **decoupled state** management system (Model-View) to handle persistent state and disparate user inputs.
- Decomposed the ambiguous "procedural world generation" problem and implemented a novel **connectivity algorithm** to ensure graph reachability ("no dead-ends").
- Selected optimal data structures to balance O (1) spatial access for collision detection with dynamic generation needs.

Project (Structure and Interpretation of Computer P.) **Berkeley, CA**
Scheme Interpreter Fall 2024

- Devised a recursive Eval-Apply engine to parse and serve as the core execution driver for a Scheme interpreter.
- Modeled a nested Environment Model from scratch, accurately simulating Lexical Scoping and forming Closures during Lambda creation.
- Designed evaluation rules for Special Forms (e.g., if, and, or), implementing Lazy Evaluation and Short-Circuiting logic.

Project (Data Structures) **Berkeley, CA**
Data Association Engine Fall 2024

- Engineered a custom graph data structure and traversal algorithms (**BFS**) to model WordNet's semantic hierarchy and compute transitive closure (hyponyms).

- Architected a complex, **cross-model query** engine to solve "data association modeling," integrating semantic graph relations (WordNet) with time-series statistical data (Google NGrams).
- Optimized query performance by decomposing logic into reusable sub-modules and ensuring robustness across boundary scenarios (e.g., data gaps, isolated nodes).

INTERNSHIP and VOLUNTEERING

Intern (JIYUN Culture Chengdu) **Gazelle Digital Park, Chengdu**

Integrated Development Department Summer 2025

- Co-developed a Python web scraping system (**Requests, BeautifulSoup**) to collect public competitor data.
- Established data validation rules to ensure data pipeline quality.
- Optimized a multi-table MySQL database by implementing indexing, improving query efficiency for ETL processes.
- Analyzed competitor pricing data (**Pandas**) and generated visualized reports (**Matplotlib**) to support market strategy.

Chengdu FISU World University Games **Financial City, Chengdu**

Executive Committee Volunteer Summer 2023

- Managed and maintained comprehensive records of airline-sponsored ticket allocations.
- Delivered VIP services and optimized ticket distribution processes for sponsors.
- Oversaw ticket allocations, ensuring a seamless process of processing and distribution.

SKILLS

Languages: Python, Java, SQL, Scheme
AI & Data Science: PyTorch, Langchain, Hugging Face, FAISS, NumPy, Pandas, Matplotlib
Developer Tools: Git, GitHub
Language Skills: Native in Sichuanese, fluent in Mandarin, English