



Zitao Xing

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Education

Xiamen University

Incoming M.S. in Applied Mathematics (Operations Research), Recommendation-Based Admission

Xiamen, China

Sep. 2026

Xiamen University

B.S. in Mathematics

Xiamen, China

Sep. 2022 – Jun. 2026

University of California San Diego

University and Professional Studies (UPS) Program

San Diego, CA, USA

Sep. 2024 – Dec. 2024

Internship Experience

Shanghai Artificial Intelligence Research Institute

Algorithm Intern

Shanghai, China

Aug. 2026 – Present

- Conduct research reproduction in AI for Science by reviewing problem formulations, methods, experimental settings, and evaluation protocols.
- Compare reproduced results with reported findings or baselines and document implementation choices, experimental observations, and remaining discrepancies.

Shanghai Big Data Co., Ltd. — Evo Wiki

Artificial Intelligence Development Intern

Shanghai, China

Jul. 2026 – Aug. 2026

- Contributed to the development and improvement of Evo Wiki, an AI-native platform for maintainable Wiki and LightRAG workflows.
- Explored knowledge-graph extraction from legal materials and retrieval-augmented generation, focusing on entity-relation modeling, retrieval quality, and traceable evidence.

Harvest Fund Management Co., Ltd.

Shanghai Regional Office Intern

Shanghai, China

Jan. 2025 – Mar. 2025

- Supported regional operations by organizing materials on fund products, market developments, client services, and institutional workflows.
- Used Excel and PowerPoint to consolidate, clean, format, and present market information, product materials, and peer-company data.
- Assisted with meeting preparation, client-document archiving, roadshows, and training materials, strengthening financial-data processing and cross-team communication skills.

Research & Projects

Shanghai Library Open Data Competition — Spatiotemporal Exploration Notebook

Project Member

Shanghai, China

Aug. 2026

- Co-developed a touch-first PWA that lets users handwrite people, places, experiences, and works directly on a digital paper interface.
- Contributed to a workflow spanning handwriting transcription, constrained knowledge-graph retrieval, source-backed evidence verification, and traceable annotations.

BGP-backed Network Digital Twin MVP with GraphRAG

Developer

Personal Project

Jul. 2026 – Present

- Built a network digital-twin MVP that transforms FRR-style BGP control-plane state into versioned snapshots and performs deterministic path lookup and before/after impact analysis.
- Implemented sample, FRR/containerlab live-lab, and synthetic scale modes; the scale scenario models 4 regions, 100 devices, and 12,000 route records per snapshot, with stale-data marking for partial collection failures.
- Integrated a GraphRAG layer using Neo4j graph persistence, Qdrant/vector fallback, and OpenAI-compatible or local LLM backends to provide evidence-grounded explanations.
- Exposed the system through Python CLI tools, a FastAPI service, Docker Compose, and a Cytoscape workbench that visualizes topology, path changes, collection status, and retrieval evidence.

Elite Undergraduate Summer Camp (EUSC × AISE), The Chinese University of Hong Kong, Shenzhen, China

ParticipantJul. 2025 – Aug. 2025

- Completed intensive training in deep learning and AI for Science, covering neural-network architectures, backpropagation, gradient-based optimization, loss design, model training, and evaluation.
- Built and trained a neural-network model, contributing to data preprocessing, architecture design, hyperparameter tuning, and experimental analysis from problem formulation through final presentation.
- Studied GPU parallel computing and CUDA fundamentals, and used Python and deep-learning frameworks to examine how hyperparameters affect convergence and generalization.

National-Level Research Training Project — Functional Analysis Course GraphRAGXiamen, China

Project LeaderMay 2025 – May 2026

- Led a national-level undergraduate research project to build a knowledge-graph-enhanced retrieval system for a Functional Analysis course; coordinated project planning, technical integration, system validation, and presentation materials.
- Structured course resources into chapters, concepts, theorems, worked examples, and questions, and designed the relationships among these object types.
- Built a course knowledge graph containing 95 objects and 216 relationships to support hierarchical and associative organization of mathematical content.
- Developed a local GraphRAG demo with Neo4j, Qdrant, BAAI/bge-m3, BAAI/bge-reranker-v2-m3, and Flask, integrating semantic retrieval, vector recall, reranking, graph-context expansion, and pipeline visualization.
- Validated the end-to-end workflow from natural-language query to object retrieval, reranking, graph-context expansion, and evidence-chain display; explored integration with Alibaba Cloud agents and the Zhihuishu course platform.

Provincial Innovation Project — Novel Numerical Methods for PDEsXiamen, China

Team MemberApr. 2025 – Apr. 2026

- Investigated numerical solutions of the Poisson equation on sector domains, focusing on how corner singularities and nonsmooth structures degrade conventional approximation accuracy.
- Helped design a Müntz-type basis method adapted to corner singularities and compared it with standard algebraic-power bases and a neural-network-assisted baseline.
- Conducted experiments on one-dimensional singular-function approximation, single- and double-mode Poisson benchmarks, and matched-versus-mismatched singular-exponent ablations; organized error data and visualizations.

Honors & Awards

- 2023 “FLTRP ETIC Cup” Understanding Contemporary China National Foreign Language Contest**, Provincial Second Prize
 - Developed skills in English writing, logical argumentation, structured communication, and English-language research and presentation.
- 2023 Contemporary Undergraduate Mathematical Contest in Modeling**, Provincial Third Prize
 - Contributed to mathematical modeling, algorithm design, numerical experiments, and report writing in a team setting.
- AiXIA Innovation: Xiamen Hackathon, AI for Science / Agent Track**, Third Prize
 - Contributed to SciVisualizer, a research agent that converts natural-language scientific intent into agent parsing, compute-task scheduling, visual rendering, and report generation.
 - Helped refine the agent workflow across modeling, job submission, result parsing, and visualization, with emphasis on automation and clear user interaction for scientific computing.
 - Applied mathematical and research-training experience to problem abstraction, scenario modeling, and pitch development, highlighting the workflow’s potential to reduce tool fragmentation and improve research efficiency.

Skills & Interests

Programming	Python, C/C++, MATLAB, CUDA
Tools & Platforms	Git, VS Code, Codex, WorkBuddy, Trae, Alibaba Cloud
Languages	Chinese (native), English (proficient; IELTS 7.0)
Research Interests	Applied mathematics, machine learning, retrieval-augmented generation, operations research, graph algorithms, AI for Science, agent development
Personal Interests	Tea culture, coffee, badminton, long-distance running