Ni Likun

AI Agent Applied & Product | Data Analytics/Scientist

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PROFILE

MSc candidate in Data Science for Sustainability at the National University of Singapore, with cross-domain experience analysing multi-source structured and unstructured data for social research, pandemic-response collaboration networks, human mobility and geospatial intelligence, and clinical AI. Experienced in data collection, ETL, feature construction, spatial and network analysis, and model evaluation, turning complex evidence into clear, decision-relevant insights. Combines established analytical methods with emerging LLM and AI-agent approaches, translating new techniques into practical, testable workflows. Seeking data analytics and applied AI roles in Singapore.

EDUCATION

National University of Singapore, Singapore Aug 2026 - Present (Expected Jul 2027)
MSc in Data Science for Sustainability

Southern University of Science and Technology, Shenzhen, China 2022 - 2026
BSc in Statistics | Outstanding Thesis: Machine Learning-Based Community Detection in Scientific Collaboration Networks

EXPERIENCE

Institute of Data Science (IDS), National University of Singapore, Singapore 15 Sep 2026 - Present
Research Assistant - Mentor: Prof. Ng See Kiong

- Contribute to research on spatiotemporal data mining and smart-city (Simulation & AI) applications.

LocationMind Inc., Tokyo, Japan Jul 2025 - Mar 2026
Development Intern

- Built ETL inputs for multidimensional geospatial datasets, covering ingestion, cleaning, transformation, and analysis reporting.
- Joined urban, socioeconomic, and infrastructure layers to produce commercial POI location features; compared mobility-prediction and spatial-analytics methods for product and architecture reviews.
- Benchmarked large multimodal models on spatial reasoning with satellite imagery and geographic context.

Information Technology Center (ITC), The University of Tokyo, Chiba, Japan Mar 2025 - Aug 2025
Collaborative Research Assistant - Mentor: Prof. KOBAYASHI-HILL Hiroki

- Drove early-stage research on an LLM-agent system for human mobility prediction, from scoping the research question and designing the initial workflow to prototype implementation and feasibility experiments.
- Reviewed and presented recent literature in lab seminars, synthesised research directions, and contributed to cross-disciplinary discussions and exploratory collaborations spanning human mobility, LLM agents, and medical AI.
- Independently collected and structured 1.8 million Japanese horse-racing records covering approximately 270,000 races, and constructed a pedigree network with over 100,000 nodes to explore large-scale relational data analysis.

SELECTED PROJECTS

Towards Efficient and Evidence-Grounded Mobility Prediction with LLM-Driven Agent Mar 2025 - Aug 2025

- Investigated whether an LLM-driven agent could complement sequence-based mobility models by incorporating semantic travel intent and geographic context into next-location prediction.
- Combined a history-based fast path for routine cases with tool-assisted reasoning for ambiguous cases, using recent context, historical behaviour, stay/move likelihood, and candidate-location profiles as evidence across 3 mobility datasets.
- Built and validated the initial Python pipeline from trajectory preprocessing and context construction to API-based LLM/RAG tool calls and experiment evaluation; analysed failure cases and documented directions for later optimisation.
- **Team outcome:** The final system raised BW top-1 accuracy from 60.05% to 71.42% and cut mean location error from 3.44 km to 2.20 km; https://arxiv.org/abs/2606.05130.

MACA-PA: Modular Agent-Based Clinical Assistant for Perioperative Anesthesia Nov 2025 - Jan 2026

- Supported a locally deployable multi-agent and RAG clinical assistant; a root agent routed tasks to specialised agents for clinical summaries, CRF generation, and medical-history classification.
- Designed publication-ready workflow diagrams covering task routing, local-RAG prompt assembly, and coordination among specialised agents.
- Edited and rewrote manuscript sections to improve technical clarity, clinical terminology, and consistency across system description and figures; published at ACM HIDA 2026.

Scientific Collaboration Network Analysis, SUSTech Sep 2024 - Jan 2025

- Used embedding-based representations to explore potential gender differences in research-field patterns and related dimensions among researchers with comparable research performance.

LLM-Based Entity Extraction and Collaboration Networks, The University of Hong Kong Jul 2024 - Sep 2024

- Used an LLM to extract entities and relationships from news reports published during the COVID-19 pandemic and construct a collaboration network.

SKILLS

Data Analytics: Python (pandas, NumPy, NetworkX), SQL, ETL, data cleaning, feature construction, model evaluation
Geospatial: QGIS, spatial joins, GPS/POI analysis
AI Agent: LLM workflows, tool calling, prompt design, model evaluation, comparative benchmarking
Documentation & Collaboration: workflow diagrams, technical writing, research synthesis, analytical reporting
Product & Research: technical evaluation, comparative benchmarking
Languages: Chinese (native), Japanese (JLPT N1), English (IELTS 6.5)

SELECTED PUBLICATIONS

Jiang, Y., Ma, C., Xu, Z., Mu, D., **Ni, L.**, et al. “MACA-PA: A Modular Agent-Based Clinical Assistant for Perioperative Anesthesia.” *HIDA 2026*, ACM, 2026. doi:10.1145/3819113.3819136.