

Minghan Lyu

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EDUCATION

SHANDONG University (SDU), Jinan, China

Sep2023 - Now

B.S. in School of Software, GPA: 3.45/5.0, got an IELTS score of 7 in my freshman year of college.

Related courses: Numerical Computing (92), Information Retrieval (92), Linear Algebra (91), Computer Organization and Architecture (90), Introduction to the Artificial Intelligence Major (95), Social Networks and Recommender Systems (90), Bioinformatics computing (93)

RESEARCH EXPERIENCE

Eukaryotic Gene Structure Prediction with HMM

Oct2025-Jan2026

Advisor: Jun Wang (Professor) | Homepage: <https://scholar.google.com/citations?hl=en&user=A95MOjcAAAAJ>

- Gene boundaries are hard to infer from raw sequences.
- Preprocessed FASTA/GFF3 into aligned labels and inputs.
- Trained a multi-state HMM and decoded standardized outputs.
- Used nucleotide/exon evaluation to guide iterations.

Multimodal Understanding for Product Live-stream

Sep2025-Dec2025

Advisor: Lei Meng (Professor) | Homepage: <https://scholar.google.com/citations?hl=en&user=KuukGGkAAAAJ>

- Live-stream content is noisy for product matching.
- Aligned video and text data into unified training pairs.
- Mined hard negatives to sharpen fine-grained matching. Use CLIP to process images then use AdaBoost to fuse image and text information
- Enhanced retrieval quality and fusion stability.

Traffic Forecasting on METR-LA

Seq2025-Dec2025

Advisor: Yongshun Gong (Professor) | Homepage: <https://scholar.google.com/citations?hl=en&user=WIHqungAAAAJ>

- Multi-step traffic prediction is hard under dynamics.
- Built an end-to-end spatiotemporal forecasting pipeline.
- Captured spatial dependencies with graph-based modeling.
- Reduced forecast error and improved robustness.

Brand-Geographic Grid Prediction

Mar2025-Jul2025

Advisor: Meng Chen (Associate Professor) | Homepage: <https://scholar.google.com/citations?hl=zh-CN&user=xE4gacoAAAAJ>

- Site selection needs reliable geographic grid prediction.
- Transformed trajectories into grid-aligned samples.
- Combined rule-based baselines with learned predictors.
- Improved accuracy with interpretable outputs.

News Recommendation with NPA

Jan2025-Jun2025

Advisor: Li Lian (Associate Professor) | Homepage: <https://faculty.sdu.edu.cn/lianli/>

- Users face information overload in news feeds.
- Modeled reading history and candidate impressions.
- Trained a neural ranking system with controlled sampling. Introduced the Bert model to encode the text information of the titles and abstracts of users' historical news.
- Delivered stable personalized ranking improvements.

LLM-based Paper Screening

Nov2024-Dec2024

Advisor: Yuqing Sun (Professor) | Homepage: <https://scholar.google.com/citations?hl=zh-CN&user=4CVXyOkAAAAJ>

- Meta-analysis screening is slow and inconsistent.
- Designed structured prompts for inclusion criteria.
- Used an LLM to classify titles and abstracts at scale.
- Improved screening efficiency with reliable decisions.

AWARDS AND HONORS

- 2024 Mathematical Modeling National Contest, Problem C, Provincial First Prize(10%)
- 2025 Mathematical Modeling National Contest, Problem C, Provincial First Prize(8%)
- Innovation Research Specialty Scholarship, 2024-2025 Academic Year

SKILLS AND OTHERS

Programming language: C/C++, Python, Java, MySQL, MATLAB , LaTeX ,R

Framework & Tools: PyTorch, Github, TensorFlow, Java IDE, Spring Web, Thymeleaf, Hugging Face, ROS, Ubuntu, Anaconda, BLAST, MEME Suite, Rstudio