1st Large Language Models for Spatial-rich Data Management

Brief Introduction

Sponsored by

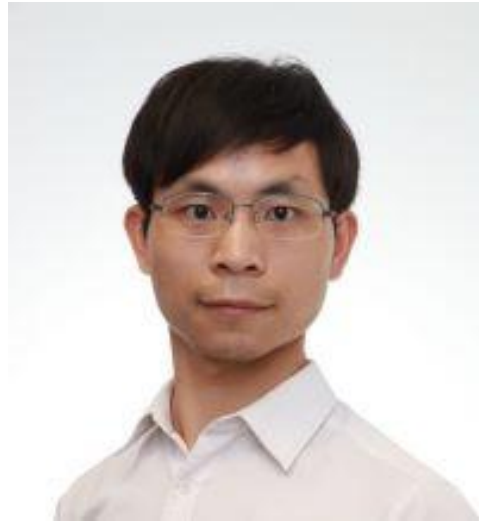| Jianqiu Xu	Cheng Long	Bernhard Seeger	Yongxin Tong
Workshop Co-Chairs	Workshop Co-Chairs	Workshop Co-Chairs	Workshop Co-Chairs

Workshop Co-Chairs

Jianqiu Xu
Nanhang University
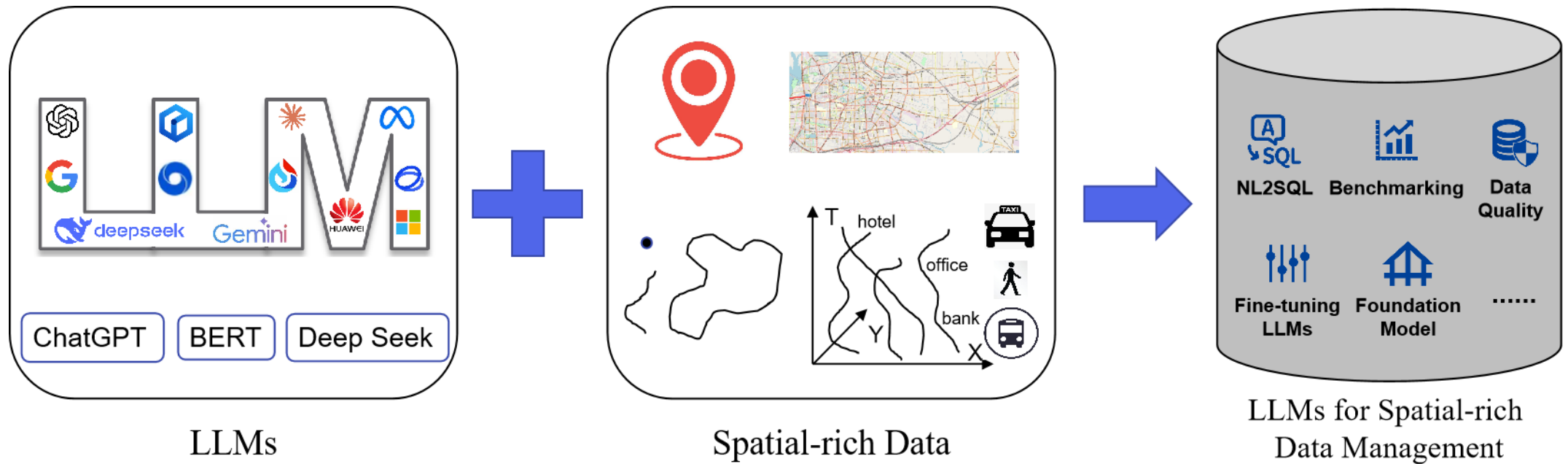P.R.China

Cheng Long
Nanyang Technological
University, Singapore

Bernhard Seeger
University of Marburg
Germany

Yongxin Tong
Beihang University,
P.R.China

motivating the topic and approach of the workshop

LLMs

Spatial-rich Data

LLMs for Spatial-rich
Data Management

The goal is to advance the understanding of how LLMs and spatial-rich data management can cooperatively contribute to novel data science solutions.

The list of topics:

- spatial-rich data foundation model
- Enhance LLMs by spatial-rich data
- Spatial-rich data quality, anomaly detection, and imputation with LLMs
- Retrieval-Augmented Models for Geospatial Applications
- NL2SQL for spatio-temporal data
- Spatial and Temporal-Spatial Contextual Reasoning with LLMs
- Embedding Learning for Geospatial Data with LLMs
- Fine-Tuning LLMs on Domain-Specific Geospatial Data
- Benchmarking of LLMs + Spatio-temporal Databases
- Optimizing Spatio-temporal databases with LLMs
- Cases studies and applications of LLMs + Spatial-rich Data
- Visions for LLMs + Spatio-temporal databases

Proposal submission on January 17th, 2025

VLDB2025 workshop proposal by

Jianqiu Xu, Cheng Long, Bernhard Seeger, and Yongxin Tong

January 17, 2025

- **workshop title**

Large Language Models for Spatial-rich Data Management

- **chairs and organizers: for each providing name, affiliation, email, and short bio (including previous experience in organizing workshops or conferences), with one of them indicated as the primary contact**

1. **Jianqiu Xu** (primary contact), Nanjing University of Aeronautics and Astronatucis, P.R.China, jianqiu@nuaa.edu.cn

2. Cheng Long, Nanyang Technological University, Singapore, c.long@ntu.edu.sg

3. Bernhard Seeger, University of Marburg, Germany, seeger@mathematik.uni-marburg.de

4. Yongxin Tong, Beihang University, P.R.China, yxtong@buaa.edu.cn

Previous experiences in organizing workshops and conferences: Jianqiu Xu is the co-chair of a workshop (Machine Learning and Data Quality for Mobile Data Management) in MDM, 2019. Cheng Long co-organizes the workshop of Large Generative Models Meet Multimodal Applications (LGM3A) associated with ACM Multimedia 2023 and the 1st workshop on Information Seeking with Big Models associated with the International Conference on Data Mining 2024 (ICDM'24). Bernhard Seeger organizes Fifth Workshop on Big (and Small) Data in Science and Humanities, BigDS 2025@ BTW 2025, Bamberg, Germany

- **a description of the workshop's topic and its goals**

The goal is to advance the understanding of how LLMs and spatial-rich data management can cooperatively contribute to novel data science solutions. The list of topics is as follows:

1. spatial-rich data foundation model

2. Enhance LLMs by spatial-rich data

3. Spatial-rich data quality, anomaly detection, and imputation with LLMs

4. Retrieval-Augmented Models for Geospatial Applications

5. NL2SQL for spatio-temporal data

6. Spatial and Temporal-Spatial Contextual Reasoning with LLMs

1

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VLDB 2025 Workshop Proposal ☆ ⮫

发件人：许建秋 <jianqiu@nuaa.edu.cn>
时　间：2025年1月17日(星期五) 下午4:14
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抄　送：Bernhard Seeger <seeger@mathematik.uni-marburg.de>; c.long <c.long@ntu.edu.sg>; yxtong <yxtong@buaa.edu.cn>
附　件：1个 (📄 VLDB2025-workshop-proposal.pdf)

Dear VLDB 2025 workshop chairs,

　　　　Please see our workshop proposal in the attachment. Thanks.

best regards
jianqiu

https://dbgroup.nuaa.edu.cn/jianqiu/

📎 附件(1个)

普通附件 (已通过电脑管家云查杀引擎扫描) 🔍 附件预览

📄 VLDB2025-workshop-proposal.pdf (32.39K)
　下载 打开 预览

Accepted on February 1st, 2025

VLDB Workshop Notification (Accept) ☆ ⊡

发件人: **Norman Paton** <norman.paton@manchester.ac.uk>
时 间: 2025年2月1日(星期六) 晚上8:34
收件人: 许建秋 <jianqiu@nuaa.edu.cn>; c.long <c.long@ntu.edu.sg>; Bernhard Seeger <seeger@mathematik.uni-marburg.de>; yxtong <yxtong@buaa.edu.cn>
抄 送: Norman Paton <npaton@manchester.ac.uk>; paparrizos.1 <paparrizos.1@osu.edu>

Dear Jianqiu, Cheng, Bernhard and Yongxin,

Thank you for your VLDB workshop submission. We are pleased to inform you that your proposal has been accepted – congratulations.

Specifically, the workshop has been accepted as a half day event on Friday 5th September in the afternoon. If this scheduling presents specific problems to you, please let us know by Friday 7th February, though we have rather limited flexibility to move events.

Now that you have the good news, there is work to be done! The following are some next steps.

1.   Please confirm receipt of this message, and that you plan to proceed with your workshop, not later than Friday 7th February.
2.   Please let us know if you propose to have VLDB host the proceedings not later than Friday 7th February. If so, we will then provide further details. The 2024 Workshops as hosted by VLDB are available here: https://vldb.org/workshops/2024/
3.   Please prepare a web page for your workshop, and provide the URL to Weiren Yu Weiren.Yu@warwick.ac.uk not later than Friday 21stth February. You can see the pages from last year's workshops here: https://vldb.org/2024/?program-schedule-workshops. Please also check/correct your workshop details at the following Google sheet:
o
https://docs.google.com/spreadsheets/d/1T8otSabMASUjUiOaNhmZoDnnd3cR6i0BDuKZXTBkPTk/edit?gid=0#gid=0

When you work out the timescales for your workshop, please:

1.   Ensure that contributions are accepted not later than Friday 20th June. This is so that delegates have time to sign up for the conference prior to the early registration deadline on 5th July.
2.   If you are using the VLDB option for hosting your proceedings, you are able to provide the papers to us by Friday 18th July, so that there is time to make available the final proceedings before the conference.

If you have further questions, please do not hesitate to ask.

Best regards,

John Paparrizos, Norman Paton
Workshop Track Co-Chairs

Overview of the submission

- 2 submissions
- accept 1

Acknowledgement--- Keynote speakers

Keynote 1

Walid G. Aref
Purdue University
West Lafayette, Indiana, USA

Keynote 2

Ahmed Eldawy
University of California, Riverside, U.S.A

Keynote 3

Gao Cong
Nanyang Technological University, Singapore

Acknowledgement

Program Committee

Sheng Wang
Wuhan University
P.R.China

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Free University of Brussels
Belgium

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Hong Kong Polytechnic University
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Tianyi Li
Aalborg University
Denmark

Qianxiong Xu
Nanyang Technological University
Singapore

- Belgium
- Denmark
- Germany
- China
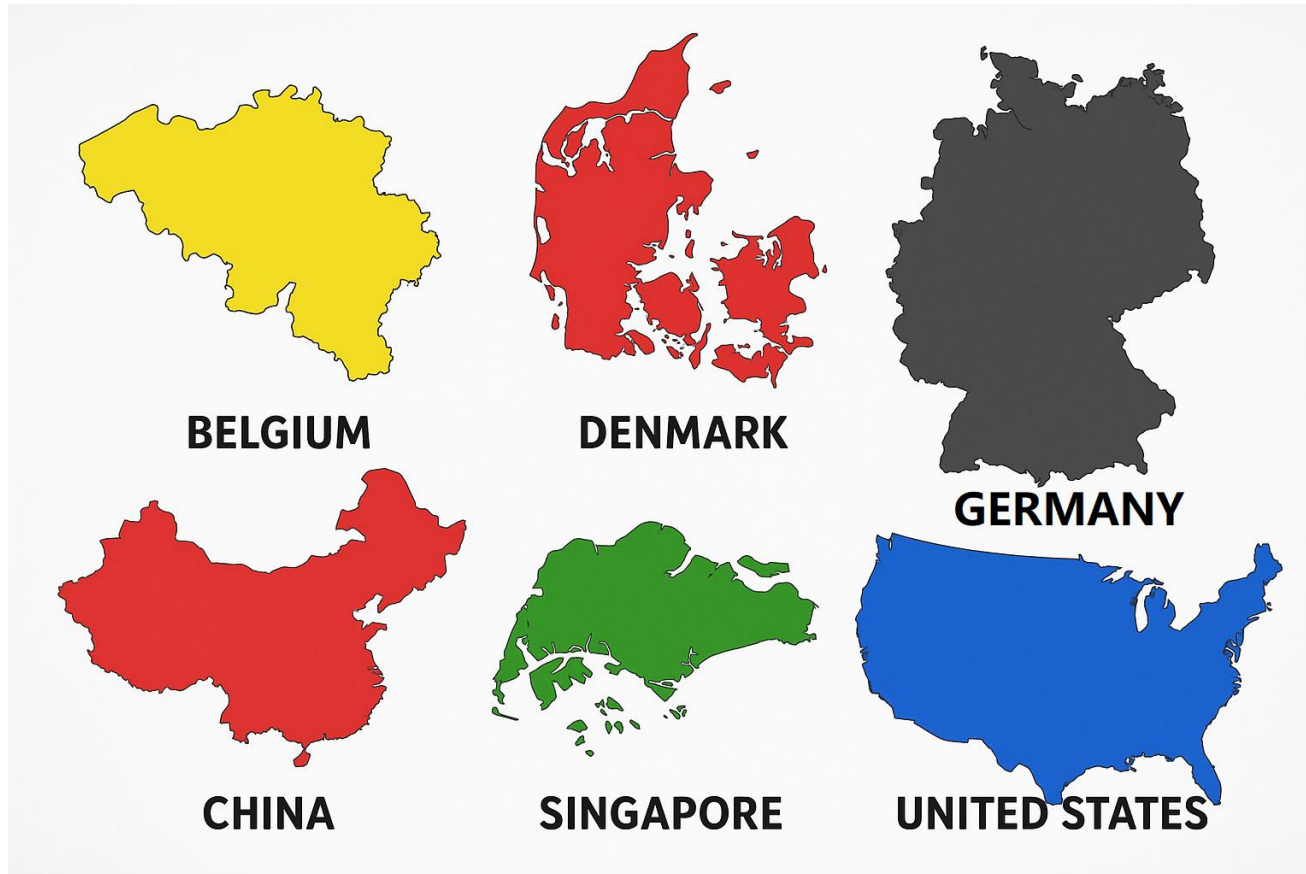- Singapore
- U.S.A

Can LLMs generate something about these? E.g., regions/maps

Prompt 1:
Please generate a picture showing **the borders** of the following six countries: Belgium, Denmark, Germany, China, Singapore and the United States.

Prompt 1:
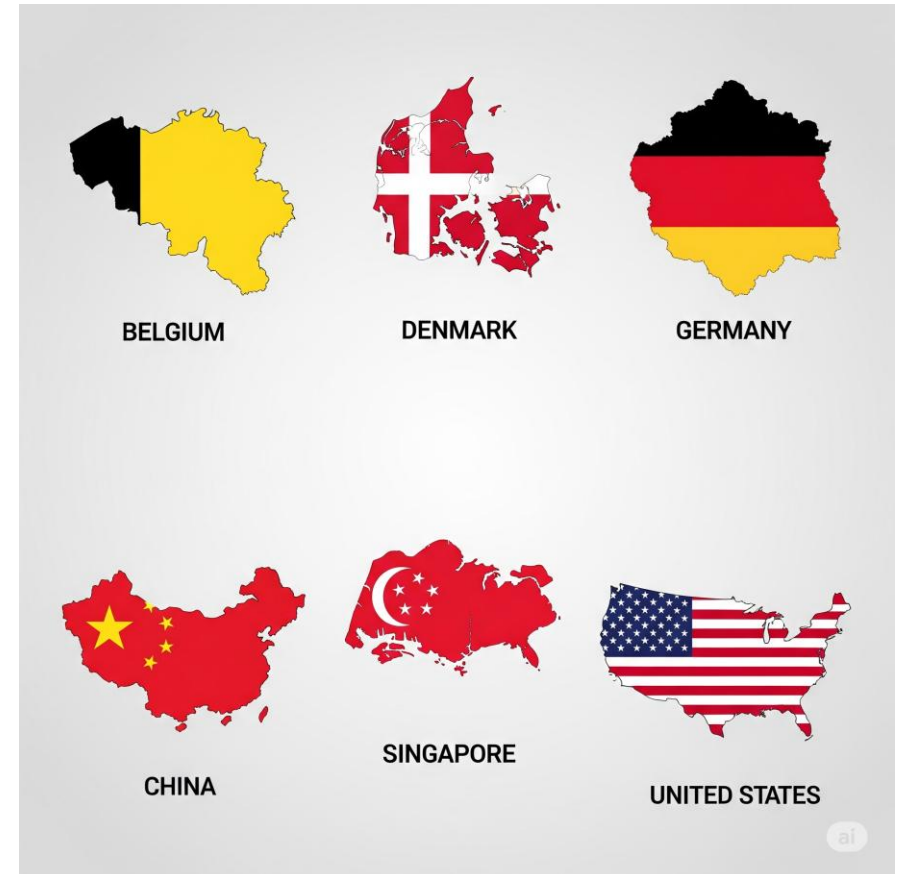
Please generate a picture showing **the borders** of the following six countries: Belgium, Denmark, Germany, China, Singapore and the United States.

ChatGPT

Gemini

Prompt 2:
Please generate a picture including **the iconic elements** of the following six countries: Belgium, Denmark, Germany, China, Singapore and the United States.

Prompt 2:

Please generate a picture including **the iconic elements** of the following six countries: Belgium, Denmark, Germany, China, Singapore and the United States.

ChatGPT

Gemini

DeepSeek

豆包

即梦AI

通义万相

Acknowledgement

⭐56 registrations

Top-4 among half day workshop

01 September - 14th International Workshop on Quality in Databases. QDB - Full Day Workshop	39
01 September - 16th Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architecture. ADMS- Full Day Workshop	99
01 September - 17th TPC Technology Conference on Performance Evaluation and Benchmarking. TPCTC - Full Day Workshop	42
01 September - 2nd International Workshop on Data Management Opportunities in Bringing LLMs with Graph Data.LLM+Graph - Full Day Workshop	121
01 September - 6th Applied AI for Database Systems and Applications. AIDB - Full Day Workshop	133
01 September - VLDB 2025 PhD. Full Day Workshop	71
05 September - 1st Large Language Models for Spatial-rich Data Management. LLM+Spatial. Afternoon Workshop	56
05 September - 1st Workshop on New Ideas for Large-Scale Neurosymbolic Learning Systems . LS-NSL - Afternoon REGULAR/PROFESSIONAL Workshop Early Bird Fee	31
05 September - 2nd Governance, Understanding and Integration of Data for Effective and Responsible AI. Guide AI - Morning Workshop	78
05 September - 2nd International Workshop on Data-Centric AI. DataAI - Afternoon Workshop	93
05 September - 3rd Data EConomy Workshop. DEC - Morning Workshop	29
05 September - 3rd International Workshop on Composable Data Management Systems. CDMS - Full Day Workshop	81
05 September - 3rd International Workshop on Tabular Data Analysis.TaDA- Morning Workshop	80
05 September - 5th Data Science with Human-in-the-Loop. DaSH -Full Day Workshop	93
05 September - The 4th International Workshop on Large-Scale Graph Data Analytics. LSGDA - Full Day Workshop	87

Acknowledgement

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Perspective

FCS invites well-known scholars at home and abroad to express their views and opinions in the form of essays which are no more than 3 pages.

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FCS will actively invite well-known scholars to organize special topics or special issues on cutting-edge hot topics in the field of computer science, so that readers can focus on in-depth understanding of research progress and trends. At the same time, FCS also supports scholars to apply for organizing special topics through self-recommendation, but this can only be done after discussion and approval by the editorial board.

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Thank you all!
Have a great event.

Photo time