# Curriculum Vitae                    Xiongnan Jin (金雄男, 김웅남)

Name：Xiongnan Jin          Nationality：Chinese

Ph.D.：Yonsei University     Major：Computer Science

B.S.：Zhejiang University    E-mail：xiongnanjin@qq.com

## Summary

- Publish 20+ (including 8 first-author) papers on international conferences and journals, such as CIKM, IEEE TKDE, and KAIS, with 500+ citations
- Authorize 15 patents and 3 software copyrights
- PI of 2 national and provincial-level research projects
- Research interest lies in Knowledge Graph, Data Mining, and NLP
- Postdoctoral Researcher at NIST (US), Senior Researcher at Zhejiang Lab (China)

## Education

**Yonsei University** (QS ranking: 76)                    *2013.03 - 2019.08*

Ph.D., Computer Science                                   Seoul, South Korea
Supervisor：Prof. Kyong-Ho Lee

**Zhejiang University** (QS ranking: 44)                  *2008.09 - 2012.09*

Bachelor, Software Engineering                            Hangzhou, China

## Work

**Zhejiang Lab**                                          *2021.11 – now*
Position：Senior Researcher                               Hangzhou, China
Institute：Artificial Intelligence Research Institute

**National Institute of Standards and Technology (NIST)**     *2020.01–2021.09*
Position：Postdoctoral Researcher          Gaithersburg, Maryland, United States
Institute: Multimodal Information Group

## Invited Talk

- Title: Methods for Querying and Completing Spatial Knowledge Graphs.     *2023.03*
- Host: Central South University, China

## Teaching Experience

- Internet Programming（CSI2109, Yonsei University）TA     *2014.03 – 2014.08*

## Language

- English (fluent), Korean (native), Chinese (native)

## Major Papers in recent 5 years (visit google scholar for full list)

1. **Xiongnan Jin**, Byungkook Oh, Sanghak Lee, Dongho Lee, Kyong-Ho Lee, and Liang Chen, "Learning Region Similarity over Spatial Knowledge Graphs with Hierarchical Types and Semantic Relations", *ACM Conf. on Information and Knowledge Management (CIKM)*, pp.669-678, 2019.

2. **Xiongnan Jin**, Sangjin Shin, Eunju Jo, and Kyong-Ho Lee, "Collective Keyword Query on a Spatial Knowledge Base", *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. Vol. 31, No. 11, pp. 2051-2062, 2019.

3. **Xiongnan Jin**, Sungkwang Eom, Sangjin Shin, and Kyong-Ho Lee, "DORIC: Discovering Topological Relations based on Spatial Link Composition", *Knowledge and Information Systems (KAIS)*, Vol. 63, pp. 2645-2669, 2021.

4. **Xiongnan Jin**, Yooyoung Lee, Jonathan Fiscus, Haiying Guan, Amy N. Yates, Andrew Delgado, Daniel F. Zhou, "MFC-Prov: Media forensics challenge image provenance evaluation and data analysis on large-scale datasets", *Neurocomputing*, Vol. 470, pp. 76-88, 2022.

5. **Xiongnan Jin**, Jooik Jung, Sejin Chun, Seungjun Yoon, Kyong-Ho Lee, "SECoG: semantically enhanced mashup of CoAP-based IoT services", S*ervice Oriented Computing and Applications*, Vol. 13, pp. 81-94, 2019.

6. Chao Wang, Jiahui Huang, Yongheng Wang, Zhengxuan Lin, **Xiongnan Jin**, Xing Jin, Di Weng, Yingcai Wu，"A Deep Spatiotemporal Trajectory Representation Learning Framework for Clustering", *Transactions on Intelligent Transportation Systems (TITS)*，2024. (Early Access)

7. Jinpeng Chen, Fan Zhang, Huan Li, Hua Lu, **Xiongnan Jin**, Kuien Liu, Hongjun Li, Yongheng Wang, "EMPNet: An Extract-Map-Predict Neural Network Architecture for Cross-Domain Recommendation", *World Wide Web*, Vol. 27, No.12, pp. 1-17, 2024.

8. Xiaoqian Liu, Xiuyun Li, Yuan Cao, Fan Zhang, **Xiongnan Jin**, Jinpeng Chen, "Mandari: Multi-Modal Temporal Knowledge Graph-aware Sub-graph Embedding for Next-POI Recommendation", *IEEE Int`l Conf. on Multimedia and Expo (ICME)*, pp. 1529-1534, 2023.

9. Sungkwang Eom, **Xiongnan Jin**, and Kyong-Ho Lee, "Efficient Generation of Spatiotemporal Relationships from Spatial Data Streams and Static Data", *Information Processing and Management (IPM)*, Vol. 57, No. 3, May. 2020.

10. Chaoqun Hong, Jun Yu, Jian Zhang, **Xiongnan Jin**, and Kyong-Ho Lee, "Multi-modal Face Pose Estimation with Multi-task Manifold Deep Learning", *IEEE Transactions on Industrial Informatics (TII)*, Vol. 15, No.7, pp. 3952-3961, 2019.

+α. **Xiongnan Jin** et al., "Self-EA: Self-supervised Multimodal Knowlege Representation Learning for Entity Alignment", 2024. (Under Review)

## Major Research Projects in recent 5 years

1. Research on Few-Shot Knowledge Graph Fusion based on a Mixed Space
   *2024.01 – now*
   - Role: **PI**
   - Fund: NSFC, China – 300,000 CNY

2. Deep Representation Learning and Pre-train Models for Knowledge Extraction from Big Structured Data          *2023.01 – now*
   - Role: **PI**
   - Fund: Zhejiang NSF (ZJNSF), China – 100,000 CNY

3. Interactive Soft Rule Dynamic Knowledge Graph          *2022.02 – 2023.09*
   - Role: Sub-project Leader
   - Fund: Zhejiang Lab, China – 2,300,000 CNY

4. Research on the Integration of Knowledge Base Q&A and Machine Reading for Service Robots          *2023.01 – 2023.12*
   - Role: Sub-project Leader
   - Fund: Zhejiang Lab, China – 990,000 CNY

5. A Big Data Intelligent Analysis Platform based on Auto-Evolving Knowledge
   *2022.12 – 2023.12*
   - Role: Project Manager
   - Fund: Zhejiang Lab – 7,800,000 CNY

6. Knowledge-directed Artificial Intelligence Reasoning Over Schemas (KAIROS)
   *2020.01 – 2021.09*
   - Role: Member
   - Fund: DARPA and NIST – 50,400 USD (personal fund)

7. Evaluation of temporal reasoning capabilities of the 3rd wave of AI systems
   *2020.10 – 2021.09*
   - Role: Member
   - Fund: NIST – 50,000 USD

8. A Personalized Context-aware Recommendation System based on Complex Event Processing          *2016.06 – 2019.05*
   - Role: Member
   - Fund: NRF – 300,000,000 KRW

9. Big Data Intelligent Visual Analytics          *2023.01 – now*
   - Role: Member
   - Fund: NSFC, China – 2,550,000 CNY

10. Research on Key Technologies of Standard Machine Language Expression and Inference for Product Lifecycle          *2022.10 – now*
    - Role: Member
    - Fund: Ministry of Science and Technology, China – 2,190,000 CNY

## Major Patents in recent 5 years ([m/n]: order of inventors)

1. [2/12] A Method and Apparatus for Constructing a Multimodal Knowledge Graph (一种多元多模态知识图谱的构建方法及装置), CN 202311298515.X, 2024.

2. [2/12] A Method, Apparatus, and Electronic Device for Generating a Knowledge Graph based Analysis System (一种基于知识图谱的分析系统生成方法、装置及电子设备), CN 202311293175.1, 2023.

3. [3/4] Method and Apparatus for Extracting Structured Data from Text based on BERT Question Answering Model (基于BERT 问答模型从文本中抽取结构化数据的方法和装置), CN 202310362137.0, 2023.

4. [7/11] A Method and Apparatus for Visualizing Entity Data under the Same Concept of Knowledge Graph (一种知识图谱同概念下实体数据可视化展示方法及装置), CN 202311298527.2, 2023.

5. [5/10] A Method, Apparatus, Storage Medium, and Electronic Device for Constructing a Knowledge Graph (一种知识图谱的构建方法、装置、存储介质及电子设备), CN 202311298547.X, 2023.

6. [5/10] A Method, Medium, and Device for Intelligent Dialogue based on a Large Language Model (一种基于大语言模型的智能对话方法、装置、介质及设备), CN 202311328288.0, 2024.

7. [5/7] A Method, Apparatus, Storage Medium, and Electronic Device for Data Query (一种数据查询的方法、装置、存储介质及电子设备), CN 202310557261.2, 2023.

8. [2/2] Apparatus and Method for Measuring Region Similarity of Spatial Entity using Spatial Knowledge Graphs, KR 1020190066607, 2021.

9. [2/2] Method and Apparatus for Discovering Spatial Link, KR 1020190064611, 2021.

10. [2/2] Method and Apparatus for Processing Group Keyword Query Based on Spatial Knowledge Base, KR 1020190040174, 2020.

## Software Copyrights

1. [1/8] Fact Verification System Software based on Retrieval enhanced Large Models (基于检索增强大模型的事实验证系统软件) V1.0，2023SR1528215，2023. (China)

2. [2/8] Jianwei Knowledge Graph Application System Software (见微图谱应用系统软件) V1.0, 2023SR0043705，2022. (China)

3. [2/2] Internet of Things Directory, C-2017-000560, 2017. (Korea)