

YUE PANG | RESUME

» I strive to uncover associations in the web of reality through graph analytics. «



- » **Status:** Ph.D. Student in Data Science, B.Sc. Computer Science
- » **Research:** Graph Algorithms, Graph Query Optimization, Interactive Graph Querying
- » **Tools:** C++, Python; Linux; Git
- » **Activities:** Archery (Olympic Recurve Bow), Fencing

RESEARCH & PROJECTS

- Network Fault Detection via Graph Analytics** 2022 - now
 - » Model and store network infrastructure and log data as graphs
 - » Trace root causes of network faults via graph queries
- Complex SPARQL Query Optimization for Graph Database System** 2020 - 2022
 - » Proposed semantics-preserving query transformations targeting UNION and OPTIONAL
 - » Realized on gStore and Apache Jena, empirically validated as effective (paper submitted)
- Index-Free Reachability Processing Over Large Dynamic Graphs** 2020 - 2022
 - » Invented a reachability algorithm based on Personalized PageRank approximation
 - » Theoretically and empirically validated to outperform state-of-the-art (paper submitted)
- Query Parsing for Graph Database System** 2019 - 2020
 - » Implemented a query parser for SPARQL 1.1 based on ANTLR v4 for the graph DBMS **gStore**
 - » Designed and realized the parsing and execution of path queries as SPARQL extensions
- Knowledge Graph for Macroeconomic Analysis with Big Data** 2018 - 2019
 - » Extracted schema from massive corpora of academic literature and research reports
 - » Designed a bootstrapping-based model to construct knowledge graph from corpora

EDUCATION

- Ph.D. Data Science** Academy for Advanced Interdisciplinary Studies, Peking University 2020 - now
 - » Finished advanced courses such as Management and Mining of Massive Graph Data
 - » Passed the Doctoral Qualification Examination in July 2022
- B.Sc. Computer Science** Yuanpei College, Peking University 2016 - 2020
 - » Finished fundamental courses such as Programming in C++, Data Structures and Algorithms
 - » Finished specialized courses such as Introduction to Database Systems

PUBLICATIONS

- » Linglin Yang, Lei Yang, **Yue Pang** and Lei Zou, "gCBO: A Cost-based Optimizer for Graph Databases," CIKM Demo Track, 2022.
- » Yu Liu, Qian Ge, **Yue Pang** and Lei Zou, "Hop-constrained Subgraph Query and Summarization on Large Graphs," GDMA, 2021.
- » Yucheng Yang, **Yue Pang**, Guanhua Huang, and Weinan E, "The Knowledge Graph for Macroeconomic Analysis with Alternative Big Data," SSRN Journal, 2020.