Zhiliang (Leon) Xiang

PHD STUDENT · SCHOOL OF COMPUTER SCIENCE AND INFORMATICS

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Education

Cardiff University   *Cardiff, Wales, United Kingdom*

PHD PROJECT: LOGIC-BASED SYSTEM TO COLLECTIVE ENTITY RESOLUTION   *Jan 2023 - Present*

- Supervisor: Yazmín Ibáñez-García, Víctor Gutiérrez-Basulto
- Advised by: Meghyn Bienvenu, Gianluca Cima

Cardiff University   *Cardiff, Wales, United Kingdom*

M.SC. ADVANCED COMPUTER SCIENCE WITH DISTINCTION   *Oct 2020 - Oct 2022*

- Dissertation: Neuro-symbolic approaches for Abstract and Relational Visual Reasoning Tasks
- Supervisor: Dr Víctor Gutiérrez-Basulto

Guangxi University of Science and Technology   *Guangxi, China*

B.SC. IN INFORMATION AND COMPUTATION SCIENCE   *Sept 2011 - Sept 2015*

Internship/Research Visit

RATIO Group, LaBRI, Université de Bordeaux   *Bordeaux, France*

TOPIC: (PROVISONAL) CERTAIN/BRAVE SOLUTIONS FOR LOGIC-BASED ENTITY RESOLUTION   *Mar. 2026 - June 2026*

- Supervisor: Meghyn Bienvenu

Inoue Laboratory, NII   *Tokyo, Japan*

TOPIC: LEARNING RULES FOR ENTITY RESOLUTION   *Sept. 2024 - Mar. 2025*

- Supervisor: Katsumi Inoue

Centre for Artificial Intelligence, Robotics and Human-Machine Systems (IROHMS)   *Cardiff, United Kingdom*

TOPIC: ENTITY RESOLUTION VIA ANSWER SET PROGRAMMING   *Sept. 2021 - Dec. 2022*

- Supervisor: Víctor Gutiérrez-Basulto

Projects

2023-Current	**Intelligent Handling of Imperfect Data (ANR Chair in AI)**, with the LaBRI, Université de Bordeaux (Participant).
2021-2025	**Embedding Methods to Complex Logical Query Answering on Knowledge Graph**, with Uni. of Edinburgh and Shanxi Uni. (Participant).
2021-2022	**The OECD's Artificial Intelligence and the Future of Skills (AIFS)**, with Uni. of Leeds & VRAIN, UPV (Participant).

Grants

2023	**COMSC PhD Scholarship 2023 with Oversea Student Fee Waiver (£22,700*3) + Stipend**, COMSC, Cardiff University
2022	**EDBT-INTENDED School on Data and Knowledge Student Grant**, CNRS & University of Bordeaux

Selected Publications

Zhiliang Xiang, Meghyn Bienvenu , Gianluca Cima , Víctor Gutiérrez-Basulto, Yazmín Ibáñez-García: *Advances in Logic-Based Entity Resolution: Enhancing ASPEN with Local Merges and Optimality Criteria*. KR 2025

Meghyn Bienvenu , Gianluca Cima , Víctor Gutiérrez-Basulto, Yazmín Ibáñez-García, **Zhiliang Xiang**: *Recent Advances in Logic-Based Entity Resolution*. ACM SIGMOD Record, Database Principles Column, Vol. 54, No. 3

Zhiliang Xiang, Meghyn Bienvenu , Gianluca Cima , Víctor Gutiérrez-Basulto, Yazmín Ibáñez-García: *ASPEN: ASP-Based System for Collective Entity Resolution*. KR 2024

Zhiwei Hu, Víctor Gutiérrez-Basulto, **Zhiliang Xiang**, Ru Li, Jeff Z. Pan: *HyperFormer: Enhancing Entity and Relation Interaction for Hyper-Relational Knowledge Graph Completion*. CIKM 2023: abs/2308.06512

Zhiwei Hu, Víctor Gutiérrez-Basulto, **Zhiliang Xiang**, Xiaoli Li, Ru Li, Jeff Z. Pan: *Type-aware Embeddings for Multi-Hop Reasoning over Knowledge Graphs.* IJCAI 2022: 3078-3084

Presentations

Mar. 2026. ***ASP-Based System for Collective Entity Resolution***. Incoming Invited Talk, KRR Seminar at Uni. of Potsdam

Nov. 2025. ***Advances in Logic-Based Entity Resolution: Enhancing ASPEN with Local Merges and Optimality Criteria***. Presented at KR 2025, Melbourne, Australia.

Mar. 2025. ***Learning Rules for Entity Resolution: A Refinement Operator-based Approach***. Presented at the 第 6 回杉山 CREST ミーティング, Kyoto, Japan.

Dec. 2024. ***ASP-based Entity Resolution: Alternative Optimality and Local Semantics***. Presented at the 3rd NII Collaborative Workshop, Takamatsu, Japan.

Nov. 2024. ***ASPEN: ASP-Based System for Collective Entity Resolution***. Presented at KR 2024, Hanoi, Vietnam.

Oct. 2024. ***ASPEN: ASP-Based System for Collective Entity Resolution***. Presented at the 2nd NII Collaborative Workshop, Nagoya, Japan.

Mar. 2023. ***On the Implementation of LACE Framework***. Presented at the INTENDED Plenary Meeting, the LaBRI at Uni. of Bordeaux.

Autumn 2022. ***Artificial Intelligence Approaches Towards Structured Data Cleaning*** . Guest Tutorial, Data Science, Escuela Superior Politécnica del Litoral.

July 2022. ***Type-aware Embeddings for Multi-Hop Reasoning over Knowledge Graphs***. Presentation at IJCAI-ECAI-2022, Vienna, Austria.

Teaching Experience

Teaching Assistant 2023, 2025	**Knowledge Representation (MSc)**, **Contents**: *Propositional/First-order/Description Logic, Nonmonontonic Reasoning, Belief Revision.*	*Cardiff Uni.*
Teaching Assistant 2023	**Principle of Machine Learning (MSc)**, **Contents**: *PAC Learning Theory, Machine Learning Algorithms.*	*Cardiff Uni.*

Service

ACM Transactions on Knowledge Discovery from Data 2023, Reviewer
Machine Learning Journal 2024, Reviewer

Professional Experience

2018-2020	**Web GIS Development Engineer** , Nanning Information Centre of Natural Resources
2017-2018	**BIM System Product Manager**, Shanghai Tongzhu Inc. with Tongji University
2015-2017	**Web Service Engineer**, ePaylinks Co., Ltd.