

NITISHA JAIN

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SKILLS

- **FUNCTIONAL SKILLS:** Scientific paper authorship and publication, Research Methodology, Teaching/Mentoring, Technical Writing, Analytical and problem-Solving Skills, Project Management, Cross-functional Collaboration, Stakeholder Management.
- **TECHNICAL SKILLS:** Python (Spyder, Jupyter, Pycharm), Java, C/C++, OWL, SPARQL, MySQL, shell scripting.

EXPERIENCE

[FEB 2023 – NOW]

POSTDOCTORAL RESEARCH ASSOCIATE, KING'S COLLEGE LONDON, UNITED KINGDOM

- **Mentors:** Dr. Albert Merono Penuela, Prof. Dr. Elena Simperl (Informatics Department)
- **Research Focus:** *Natural Language Processing, Machine Learning, Knowledge Engineering*, Semantic Web, Responsible AI, Explainable AI with neuro-symbolic methods.
- **Outcomes:** Mentorship of PhD and Master students, Teaching, Collaborative paper writing with industry researchers in MLcommons *Croissant* project, Project management of long-term EU project *MuseIT* (2022-2025), Application of research work to solve domain-specific issues.

[OCT 2020 – JAN 2021]

PHD INTERNSHIP, BOSCH CENTRE FOR ARTIFICIAL INTELLIGENCE (BCAI), GERMANY

- **Mentors:** Dr. Daria Stepanova, Dr. Trung Kien Tran (NLP and Semantic Reasoning Group)
- **Research Focus:** Reasoning on knowledge graphs and embeddings.
- **Outcomes:** Authored a research paper at ISWC 2021, understanding of application of research to real-world use cases, learnt collaborative paper writing.

[OCT 2017 – SEP 2018]

RESEARCH ASSISTANT, MAX PLANCK INSTITUTE FOR INFORMATICS, GERMANY

- **Mentors:** Dr. Simon Razniewski, Prof. Gerhard Weikum (Database & Information Systems Group)
- **Research Focus:** Information extraction with neural network-based models.
- **Outcomes:** Co-authored a research paper at EMNLP 2019, gained exposure to working in a world-renowned research institute, mentorship and guidance from eminent researchers.

[AUG 2015 – AUG 2017]

RESEARCH SCIENTIST, IBM RESEARCH AI, BANGALORE, INDIA

- **Mentor:** Arun Kumar, Senior Researcher and Manager (Cognitive Solutions)
- **Research Focus:** Development of intelligent solutions on top of Watson technologies in the domain of Cognitive Finance and Regulatory Compliance, Ontologies, Knowledge Graphs construction.
- **Outcomes:** Demo paper at IUI 2017, Technical Report in IT Professional, gain skills in deployment of AI/ML solutions in an industry setting.

[APR 2015 – MAY 2015]

RESEARCH INTERN, UNIVERSITY OF MELBOURNE, AUSTRALIA

- **Mentor:** Prof. Rajkumar Buyya (Clouds Lab, Department of CIS)
- **Research Focus:** Implementation of deadline based I/O scheduling on CloudSim framework.
- **Outcomes:** Experience in international collaboration, authored research paper at CCBD 2015.

EDUCATION

[NOV 2018- OCT 2022]

PH.D. IN COMPUTER SCIENCE, HASSO PLATTNER INSTITUTE, UNIVERSITY OF POTSDAM, GERMANY

- **Mentors:** Prof. Dr. Ralf Krestel, Prof. Dr. Felix Naumann (Information Systems Group)
- **Research Focus:** Knowledge Graphs, Semantic Web, Information Systems, NLP, Machine Learning.
- **Thesis:** Representation and Curation of Knowledge Graphs with Embeddings.

[AUG 2012- MAR 2015]

MASTERS (RESEARCH) IN COMPUTER SCIENCE, INDIAN INSTITUTE OF SCIENCE, BENGALURU, INDIA

- **Mentor:** Dr. J. Lakshmi (Supercomputer Education and Research Centre)
- **Research Focus:** Operating systems, Computer architecture, Distributed systems.
- **Thesis:** Performance Specific I/O Scheduling Framework for Cloud Storage.

[AUG 2007- JULY 2011]

BACHELORS IN INFORMATION TECHNOLOGY, GGSIP UNIVERSITY, NEW DELHI, INDIA

- **Focus:** Operating Systems, Computer Networks, Cloud Computing.

SELECTED PUBLICATIONS

- *Bring back Semantics to Knowledge Graph Embeddings: An Interpretability Approach.* Under review at the 18th International conference on Neural-Symbolic Learning and Reasoning (NeSy) 2024.
- *The Polifonia Ontology Network: Building a Semantic Backbone for Musical Heritage.* The 22nd International Semantic Web Conference (ISWC) 2023, Athens, Greece, November 6-10, 2023.
- *Using Large Language Models for Knowledge Engineering (LLMKE): A Case Study on Wikidata.* The Knowledge Base Construction from Pre-trained Language Models Workshop (LM-KBC) co-located with ISWC, Athens, Greece, November 6-10, 2023.
- *Croissant: A Metadata Format for ML-Ready Datasets.* The Eighth Workshop on Data Management for End-to-End Machine Learning (DEEM), co-located with SIGMOD 2024.
- *A Standardized Machine-readable Dataset Documentation Format for Responsible AI.* To appear in ArXiv, abs/5643361, 2024 (under review at AIES 2024).
- *Discovering Fine-Grained Semantics in Knowledge Graph Relations.* ACM International Conference on Information and Knowledge Management (CIKM), Atlanta, USA, October 17-21, 2022.
- *Generation of Training Data for Named Entity Recognition of Artworks.* Semantic Web Journal (Special Issue Cultural Heritage 2021).
- *Improving Knowledge Graph Embeddings with Ontological Reasoning.* International Semantic Web Conference (ISWC), October 24-28 2021, Online.
- *Do Embeddings Actually Capture Knowledge Graph Semantics?* Extended Semantic Web Conference (ESWC), June 6-10 2021, Online.
- *Coverage of Information Extraction from Sentences and Paragraphs.* The Conference on Empirical Methods in Natural Language Processing (EMNLP), Hong Kong, November 3-7, 2019.

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JUNE 2024