

# Priyansh Trivedi

Nancy, France

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## Experience

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### Fraunhofer NetMedia

*Dresden, Germany*

RESEARCH ENGINEER

*Jun. 2019 - Oct. 2020*

- Worked on a voice enabled web-based conversational agent to query in-house financial documents. Designed a domain-specific entity and intent recognition system based on SpaCy and PyTorch, using advances from pretraining, and transfer learning research. Further integrated active learning mechanism to decrease annotation efforts and improve accuracy.
- Core contributor to the initial structure of a large-scale multilingual dialogue management system based on RASA. Implemented various NLP components, including sentiment analysis, intent recognition, and various evaluation metrics.
- Co-authored [an EMNLP publication](#), resulting from in-house experiments with integrating external knowledge graphs (WikiData) with our NLP components.

### Fraunhofer IAIS

*Sankt Augustin, Germany*

RESEARCH ASSISTANT

*Sept. 2017 - May 2019*

- Researched and benchmarked various existing reading comprehension systems for semantic search over legal documents.
- Co-authored an [extensive review of neural network based approaches for Knowledge Graph Question Answering \(KGQA\)](#). Designed and delivered [two tutorials](#) on the same topic at international conferences
- Proposed a transformers based [KGQA approach, which was published at ISWC](#).

### Smart Data Analytics Lab, Universität Bonn

*Bonn, Germany*

RESEARCH ASSISTANT

*Sept. 2016 - Aug. 2017*

- Drove efforts to create a [large-scale Text to SPARQL dataset](#), which resulted in 10x larger dataset than existing alternatives (at that time).
- Our work has since been cited over 200 times.

### Knowledge Discovery & Management Lab, DA-IICT

*Gandhinagar, India*

RESEARCH INTERN

*May 2015 - Aug. 2015*

- Proposed a state-of-the-art [approach to document similarity](#), and implemented it to work at low latency over Google Compute Engine, using a combination of custom Elasticsearch plugins, and OrientDB running on distributed nodes.
- Contributed to the evaluation of a [novel discrete encoding space and similarity measure](#) for Description Logics (ALCH+) concepts.

### Himalayan Institute for Environment, Ecology & Development

*Tehri Garhwal, India*

RURAL INTERN

*Dec. 2011 - Feb. 2012*

- Designed, and performed qualitative surveys in local rural communities situated at the foothills of the Himalayas, and interacted with workers of different vocations to understand their problems and propose technologically enabled solutions.

## Skills

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Python, PyTorch, Numpy, Matplotlib, SPARQL, WandB, SpaCy, Transformers (HuggingFace).

Deep Learning, NLP, Multi-task Learning, Semantic Parsing, Domain Adaptation, Graph Neural Networks, Knowledge Graph Question Answering.

## Education

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### INRIA

*Nancy, France*

PH.D. IN COMPUTER SCIENCE (ABD)

*Nov. 2020 - -*

- Topic: Information Extraction and Anaphora Resolution. Mentored by Prof. Pascal Denis, Prof. Rémi Gilleron, Prof. Philippe de Groote and Prof. Sylvain Pogodalla.

### Universität Bonn

*Bonn, Germany*

M.S. IN COMPUTER SCIENCE

*Sept. 2016 - May. 2019*

- Thesis: [Domain Adversarial Training for Recurrent Language Models](#) mentored by Prof. Jens Lehmann, and Prof. Asja Fischer.

### Dhirubhai Ambani Institute of Information and Communication Technology

*Gandhinagar, India*

B.TECH. IN INFORMATION AND COMMUNICATION TECHNOLOGY

*Jul. 2012 - May. 2016*

- Thesis: Topic Sequence Alignment based Document Similarity Framework mentored by Prof. Sourish Dasgupta.

## Organizational Experience

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### Google Developers Group, DA-IICT

CORE COMMITTEE

Gandhinagar, India

Aug. 2012 - Mar. 2016

- Organized multiple technical (engineering skills) sessions, as a part of Google Developers Group community program.
- Held workshops, and hands-on session on Introduction to Web Development.

### Student Group - Sambhav

CORE COMMITTEE

Gandhinagar, India

Aug. 2012 - Mar. 2016

- Managing a student run NGO in Gandhinagar, India where we ran multiple projects targeted at helping underprivileged kids at an orphanage, and a school for the visually impaired .
- Organized multiple clothes donation and distribution drives.
- Organized three blood donation drives in the university campus.

## Select Publications

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- Tatiana Anikina, Natalia Skachkova, Joseph Renner, **Priyansh Trivedi**. "Anaphora Resolution in Dialogue: System Description (CODI-CRAC 2022 Shared Task)". In CODI-CRAC 2022, Oct 2022, Gyeongju, South Korea.
- Joseph Renner, **Priyansh Trivedi**, Gaurav Maheshwari, Rémi Gilleron, and Pascal Denis. "An End-to-End Approach for Full Bridging Resolution." In CODI-CRAC 2021 Shared-Task: Anaphora Resolution in Dialogues, pp. 48-54. Association for Computational Linguistics, 2021.
- Mikhail Galkin, **Priyansh Trivedi**, Gaurav Maheshwari, Ricardo Usbeck, and Jens Lehmann. 2020. "Message Passing for Hyper-Relational Knowledge Graphs". In Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), pp. 7346–7359, Online. Association for Computational Linguistics.
- **Priyansh Trivedi**<sup>\*</sup>, Gaurav Maheshwari<sup>\*</sup>, Mohnish Dubey<sup>\*</sup>, and Jens Lehmann. "LC-Quad: A corpus for complex question answering over knowledge graphs." In The Semantic Web–ISWC 2017: 16th International Semantic Web Conference, Vienna, Austria, October 21-25, 2017, Proceedings, Part II 16, pp. 210-218. Springer International Publishing, 2017.
- Nilesh Chakraborty<sup>\*</sup>, Denis Lukovnikov<sup>\*</sup>, Gaurav Maheshwari<sup>\*</sup>, **Priyansh Trivedi**<sup>\*</sup>, Jens Lehmann, and Asja Fischer. "Introduction to neural network-based question answering over knowledge graphs." Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery 11, no. 3 (2021): e1389.

## Other Academic Contributions

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- 2020 **Program Committee**, The 6th Natural Language Interfaces for the Web of Data (NLIWOD) Workshop
- 2019 **Program Committee**, International Semantic Web Conference
- 2018, 19 **Tutorial: Build a Question Answering System Overnight**, Extended Semantic Web Conference
- 2020 **Reviewer**, Information Sciences Journal