

Harkanwar Singh

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EDUCATION

- **University of California Los Angeles** Los Angeles
Master of Science in Computer Science Sep. 2023 – June 2025
- **Indian Institute of Technology Delhi** New Delhi, India
Bachelor of Technology in Computer Science and Engineering; CGPA: 9.439/10.0 July 2017 – May 2021

RELEVANT COURSES AND SKILLS

- **Courses:** Natural Language Processing, Principle Of Artificial Intelligence, Computer Vision, Machine Learning, Optimization Methods and Applications, Probability & Stochastic Processes
- **Technical Skills:** Python, R, C, C++, Bash, PyTorch, Sklearn, Tensorflow, spaCy, NumPy, pandas

PUBLICATIONS AND PATENTS

- [Joint Completion and Alignment of Multilingual Knowledge Graphs](#) EMNLP'22
Harkanwar Singh, Soumen Chakrabarti, Shubham Lohiya, Prachi Jain, Mausam.
- [Generating Occurrence Contexts for Objects in Digital Content Collections](#) US PATENT
Manoj Kilaru, **Harkanwar Singh**, V. Jain, S. Goel, P. Garg, Vishwa Vinay, Ryan A. Rossi, Nedim Lipka

RESEARCH EXPERIENCE

- **Quadeye Securities**(*Quant Researcher*) June 2021 - July 2023
 - Developed a med-freq automated hedging strategy, trading 1% of volume in commodity futures market
 - Utilized PCA to model global market fluctuations, aiding market regime identification & price prediction
- **Adobe Research**(*Research Intern, Vishwa Vinay*) May 2020 - July 2020
 - Generated occurrence contexts for objects in large image collections ([Adobe Stock](#)) using graph clustering
 - Learned entity's contextual embeddings to aid image search, achieved 0.09 MRR in link prediction task.

PROJECTS

- **Multilingual Knowledge Graph Completion** Prof. Mausam & Soumen, Aug 2020 - May 2021
 - Jointly trained multilingual KGs with loss term exploiting synergy between KG completion & alignment.
 - Using mBERT for alignment improved MRR by 17% across 7 language KGs compared to strong baseline
- **Named Entity Recognition for Real Estate Text** Prof. Mausam, Jan 2021
 - Engineered a sequence tagger for information extraction from real estate shouts; Trained CRFs with IOB labels, using task-specific features, GloVe embeddings & PoS tags to achieve an average F1-score of 0.79
- **Multi-Class Email Triaging System** Prof. Mausam, Dec 2020
 - Deployed a multi-class email triaging system for Dean of IIT Delhi; Bootstrapped minority classes & used Tf-idf vectorizer & NER for features to train the best model of class with 86% micro & macro accuracy
- **Image Captioning in Italian** Prof. Parag Singla, Aug 2020
 - Implemented an Italian text captions generator for variable sized images. Designed a RNN based decoder with beam search to generate top 5 captions for each encoded image from CNN

HONORS & AWARDS

- Awarded the IIT Delhi Certificate of Merit for being in *Institute Top 7%* in a batch of 850+ students. [2018]
- Selected among top 35 candidates in *Indian National Mathematics Olympiad (INMO)* for attending *International Mathematics Olympiad Training Camp (IMOTC)* [2016]