Harkanwar Singh

✉ harkanwarsingh1841@gmail.com | 📞 +1-4243713008 | in LinkedIn | 🎓 Google Scholar

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**: C, C++,Bash, Java, Python, R, PyTorch, Sklearn, Tensorflow, spaCy, HuggingFace

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]