KESHAV SINGH

📍 Tokyo, Japan

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EDUCATION

Ph.D. in Intelligent Information Sciences (Inui-Lab) Tohoku University   **Sendai, Japan**
- *Thesis: "Bridging the Implicit Reasoning Gap in Arguments: An Overnight Approach"*   *2020-2023*

M.Sc. in Intelligent Information Sciences (Inui-Lab) Tohoku University   **Sendai, Japan**
- *Thesis: "Bridging the Reasoning Gap in Arguments: Utilizing Externally Collected Warrants for Improving Evidence Detection"*   *2018-2020*
- Final Grade: 3.8/4.0

B.Eng. in Mechanical Engineering, University Institute of Technology   **Bhopal, India**
- Final Grade: 7.25/10.0   *2013-2017*

WORK EXPERIENCE

Fast Accounting   **Tokyo, Japan**
NLP Research Scientist ($L5$)   *July 2024 - Present*
- Leading the full-scale development of multilingual LLMs (pre-training + fine-tuning) for financial & accounting data.
- Released our first in-house trained model within a year: **Soroban3.8B**, proficient in English and Japanese, surpassing top models while using only **10**% training tokens.

CTW   **Tokyo, Japan**
NLP Research Scientist ($L2$)   *April 2023 - June 2024*
- Implemented Retrieval-augmented generation (RAG) pipeline in an LLM-based QA system, automating **55**% of customer problem resolutions.
- Idealized and implemented personality induced chatbot, boosting customer engagement on game platform by **25**%.
- Lead the development of end-to-end graphic design framework for Ad-Banner generation.
- Achieved cost savings of **$60,000** per year.

ENCORED Japan   **Sendai, Japan**
Deep Learning Intern   *July 2021 - July 2022*
- Designed and implemented time-series forecasting model with **90**% accuracy for real-time prediction of electricity prices in Japan.

SOLANETS   **Sendai, Japan**
Machine Learning Intern   *April 2020 - September 2020*
- Implemented ML algorithms for analysis of Twitter user data to predict future viral tweet.

SKILLS

Languages	English, Hindi, Japanese (JLPT N2 Ongoing)
Computer Languages	Python, Bash, JavaScript, HTML5
ML/DL Toolkit	Pytorch, Huggingface, AWS, Guidance, Langchain
Frameworks & APIs	JSON, Django, FastAPI, OpenAI, VisionAI
Databases	PostgreSQL (PGVector)
Tools	VSCode, Emacs, Grafana, Git

HONORS

MEXT Scholarship	Research scholarship by the Government of Japan for pursuing M.Sc. & Ph.D.
MP-PET Scholarship	Merit-based student scholarship from the Government of MP (India) for pursuing B.Eng.
Stock Trading	3rd rank, Virtual Stock Trading Championship by Reliance, India

SCHOLASTIC ACHIEVEMENTS

HULT Prize, Tohoku University   **Sendai, Japan**
Logistics and Team Coordinator   *January 2021*

· Successfully organized HULT Prize, one of the most prestigious start-up awards co-partnered by the UN.

International Development Youth Forum   **Tokyo, Japan**
Representative, India   *April 2016*

· Envisaged and proposed solutions to problems faced by Batik industry in Indonesia.

Agribida, AIESEC   **Davao, Philippines**
Business Development Intern   *August 2015*

· Executed water conservation project in underdeveloped areas with the Davao Water Department.

RESEARCH PUBLICATIONS (PEER REVIEWED)

IRAC: A Domain-specific Annotated Corpus of Implicit Reasoning in Arguments   **Marseille, France**
• Keshav Singh, Naoya Inoue, Farjana Sultana Mim, Shoichi Naito and Kentaro Inui   *LREC*
In Proceedings of the 13th Conference on Language Resources and Evaluation (LREC 2022),   *June 2022*
pages 4674-4683 Marseille, June 2022

Exploring Methodologies for Collecting High-Quality Implicit Reasoning in Arguments   **Punta Cana, DR**
• Keshav Singh, Farjana Sultana Mim, Naoya Inoue, Shoichi Naitoh and Kentaro Inui.   *ArgMining*
In Proceedings of the 8th Workshop on Argument Mining, pages 57-66 Punta Cana,   *November 2021*
Dominican Republic, November 2021.

Annotating Implicit Reasoning in Arguments with Causal Links   **Online**
• Keshav Singh, Naoya Inoue, Farjana Sultana Mim, Shoichi Naitoh and Kentaro Inui.   *October 2021*
Argumentation Knowledge Graphs, October 2021 (Non-archival)

Improving Evidence detection by leveraging Warrants   **Hong Kong**
• Keshav Singh, Paul Reisert, Naoya Inoue, Pride Kavumba and Kentaro Inui.   *FEVER*
In Proceedings of the Second Workshop on Fact Extraction and VERification (FEVER)   *November 2019*
pages 57–62 Hong Kong, November 3, 2019.