

Md Imbesat Hassan Rizvi

DOCTORAL STUDENT · COMPUTER SCIENCE · NLP · CONVERSATIONAL AGENTS

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Education

Technische Universität (TU) Darmstadt

Darmstadt, Germany

PH.D. IN COMPUTER SCIENCE

Sep. 2022 - PRESENT

- **Advisor:** Prof. Iryna Gurevych
- **Lab:** Ubiquitous Knowledge Processing (UKP) Lab
- **Topic:** Conversational agents for expert domains

Indian Institute of Science (IISc)

Bangalore, India

M.TECH IN COMPUTATIONAL SCIENCE

Jul. 2015 - Jun. 2017

- **GPA:** 6.1/8.0

Indian Institute of Technology (Indian School of Mines) - IIT (ISM)

Dhanbad, India

B.TECH IN MECHANICAL ENGINEERING

Jul. 2008 - Jun. 2012

- **GPA:** 7.83/10.0

Publications

* represents equal contribution. For a complete list of publications, please visit the [🔍 Google Scholar Profile](#).

Extraction of Explicit and Implicit Cause-Effect Relationships in Patient-Reported Diabetes-Related Tweets From 2017 to 2021: Deep Learning Approach

JMIR Med Inform

A. AHNE, V. KHETAN, X. TANNIER, **M.I.H. Rizvi**, T. CZERNICHOV, F. ORCHARD, C. BOUR, A. FANO, G. FAGHERAZZI

Jul. 2022

- Journal of Medical Internet Research (JMIR) Medical Informatics 2022, Volume 10, Issue 7, Pages e37201. [Article](#)

MIMICause: Representation and automatic extraction of causal relation types from clinical notes

Findings of ACL

V. KHETAN*, **M.I. Rizvi***, J. HUBER, P. BARTUSIAK, B. SACALEANU, A. FANO

May 2022

- Findings of the Association for Computational Linguistics: ACL 2022, Pages 764-773. [Paper](#)

Identifying the Relative Importance of Customer Issues on Product Ratings through Machine Learning

ACM DocEng

H. TIWARI, S. SAIT, **M.I.H. Rizvi**, N.D. VENKATA

Aug. 2018

- Proceedings of the ACM Symposium on Document Engineering 2018 (DocEng'18), Article No. 18, Pages 1-4. [Article](#)

Experience

Indian Institute of Science (IISc)

Bangalore, India

RESEARCH ASSOCIATE

Oct. 2020 - Aug. 2022

- Worked at the Robert Bosch Centre for Cyber-Physical Systems (RBCCPS).
- Created "MIMICause" dataset from MIMIC-III clinical notes for causal relation extraction, and trained BERT and Clinical-BERT based models for relation classification.
- Integrated Ray[rllib] with network simulator (ns-3) and mobility simulator (SUMO) for distributed and scalable training of reinforcement learning (RL) based network optimization tasks.
- Trained models for multi-modal (vision and language) learning to enable language based navigation and instruction execution by an RL agent.
- Enabled two-way remote speech communication with phoneme segmentation based lip synchronization for Human-Robot Interaction on a "Sophia" robot.
- Enabled Wav2Vec2 based speech-to-text conversion followed by NLP based action identification and execution on the Sophia robot.

Hewlett-Packard (HP) Inc.

Bangalore, India

SENIOR MACHINE LEARNING ENGINEER

Jul. 2017 - Oct. 2020

- Created a customer issue prioritization system by identifying and clustering key phrases using a self-attention and LSTM based classifier for product ratings in customer reviews.
- Created a text-based semantic image search and personalization tool for a printing marketplace.

Services & Volunteering

- Jul. 2021 - Pres.** **Teaching Assistant**, Computational and Data Sciences (CDS), Indian Institute of Science (IISc).
Feb. 2021 **Reviewer**, ML Reproducibility Challenge 2020.
Apr. 2020 **Volunteer**, International Conference on Learning Representations (ICLR).

Honors & Achievements

- Nov. 2021** Member of "Asha", a **Runner-Up** team at the International Conference on Social Robotics (ICSR), 2021.
Apr. 2021 Member of the team "Aham", a **Semi-Finalist** team at the \$10M ANA Avatar XPRIZE Robot competition.
Jul. 2015 - May. 2017 **Graduate Student Scholarship**, Indian Institute of Science (IISc), Bangalore.
Mar. 2013 Secured an **All India Rank of 99 (top 0.06 %ile)** in the Graduate Aptitude Test in Engineering (GATE).
Jul. 2008 - May. 2012 **Merit-cum-means Scholarship**, Indian Institute of Technology - IIT(ISM), Dhanbad.
Sep. 2009 **Second prize** in Poster competition at Society of Petroleum Engineers (SPE), Bangalore Section.
Jun. 2008 **Qualified among the top 2 %ile** in the Indian Institute of Technology (IIT) entrance examination.
Jun. 2008 **Amul Vidya Bhushan Award** - by Amul Foundation for academic excellence.
Jun. 2008 **Hindustan Pratibha Samman** - by Hindustan Times (HT) Media Ltd. for academic excellence.
Jul. 2007 - May 2008 **Super 30** scholarship - by Ramanujan School of Mathematics.
2003 Secured an **All India Rank of 131 (top 6 %ile)** in the National Science Olympiad (NSO).

Skills

- Programming** Python, C/C++, JAVA, Matlab, CUDA, MPI, OpenMP, LaTeX
Frameworks Pytorch, Keras, Hugging Face, Ray[rllib], Robot Operating System (ROS), Docker, Scikit-Learn, XGBoost, Flask
Languages English, Hindi, Urdu