KAUSHAL KUMAR MAURYA

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🔍 RESEARCH INTERESTS

Educational NLP, Multilingual NLP, Responsible NLP

🎓 EDUCATION

FEBRUARY 2024	PHD in Computer Science and Engineering, IIT Hyderabad, India **Advisor:** Dr. Maunendra Sankar Desarkar **Thesis:** Extending Generative NLP: Incorporating Diversity, Context, and Inclusivity in Neural Text Generation
JUNE 2017	MTECH with Honours in Artificial Intelligence, SCIS, University of Hyderabad, India **Advisor:** Prof. Kavi Narayana Murthy **Thesis:** The Study of Machine Translation Evaluation
JUNE 2014	BTECH with Honours in Computer Science and Engineering, Uttar Pradesh Technical University, India

💼 WORK EXPERIENCE

JANUARY 2024 - PRESENT	**Post-Doctoral Fellow, MBZUAI, Abu Dhabi, UAE,** **PI: Dr. Ekaterina Kochmar** › **Research Theme:** AI/LLM for Education › Broadly focus on the development of a LLM-powered co-pilot for education, with a specific emphasis on creating intelligent tutoring systems, developing comprehensive evaluation frameworks, and establishing benchmarks to track and accelerate progress in Educational NLP. › **Publications:** ACL 2025, NAACL 2025, AIED 2025, COLING 2025, BEA@ACL 2025, and INW@NAACL 2024 › **Grant:** Google Academic Grant (GARA) 2024 › **Award:** SAC Award at NAACL 2025
JULY 2017 - MARCH 2018	**Data Scientist, Ntwist, CIE, IIITH, Hyderabad, India,** › **Job Theme:** AI-driven Optimization and Automation of Gas Plant Production › Developed deep reinforcement learning-based models to optimize and semi-automate gas plant production, accounting for real-world constraints which dynamically altered the exploration space.

📘 PUBLICATIONS

Educational NLP	› **Kaushal Kumar Maurya**, KV Aditya Srivatsa, Kseniia Petukhova, and Ekaterina Kochmar. "Unifying AI Tutor Evaluation: An Evaluation Taxonomy for Pedagogical Ability Assessment of LLM-Powered AI Tutors" at *NAACL 2025*. ⧉[Paper] ⧉ SAC Award for Resource and Evaluation Track ⧉MBZUAI Blog Post › **Kaushal Kumar Maurya** and Ekaterina Kochmar. "Pedagogy-driven Evaluation of Generative AI-powered Intelligent Tutoring Systems" at *AIED 2025 (BlueSky Track)*. › Ekaterina Kochmar, **Kaushal Kumar Maurya**, Kseniia Petukhova, KV Aditya Srivatsa, Anaïs Tack, and Justin Vasselli. "Findings of the BEA 2025 Shared Task on Pedagogical Ability Assessment of AI-powered Tutors" at the *BEA workshop, ACL 2025*. ⧉[Website] ⧉[CodaBench] › Bashar Alhafni, Sowmya Vajjala, Stefano Bannò, **Kaushal Kumar Maurya**, and Ekaterina Kochmar. "LLMs in Education: Novel Perspectives, Challenges, and Opportunities." at *COLING 2025*. ⧉[Slides] ⧉[Paper] ⧉[Website] › **Kaushal Kumar Maurya** and Ekaterina Kochmar. "`AITutor-AssessmentKit:` Open-Source Library to Measure Pedagogical Ability of AI Tutors in Educational Dialogues" 2025. *Under Review.* ⧉[Code] › KV Aditya Srivatsa, **Kaushal Kumar Maurya**, and Ekaterina Kochmar. "Can LLMs Reliably Simulate Real Students' Abilities in Mathematics and Reading Comprehension?" at *Building Educational Workshop (BEA) workshop, ACL 2025*. › **Kaushal Kumar Maurya** and Maunendra Sankar Desarkar, "Learning to Distract: A Hierarchical Multi-Decoder Network for Automated Generation of Long Distractors for Multiple-Choice Questions for Reading Comprehension" at *CIKM 2020*. ⧉[Paper]

Multilingual NLP	> **Kaushal Kumar Maurya**, Rahul Kejriwal, Maunendra Desarkar, and Anoop Kunchukuttan. "CHARSPAN: Utilizing Lexical Similarity to Enable Zero-Shot Machine Translation for Extremely Low-Resource Languages" at *EACL 2024*. ☑[Paper]
	> Maharaj Brahma*, **Kaushal Kumar Maurya***, and Maunendra Sankar Desarkar. "SELECTNOISE: Unsupervised Noise Injection to Enable Zero-Shot Machine Translation for Extremely Low-Resource Languages" at *EMNLP 2023 (Findings)*. ☑[Paper]
	> **Kaushal Kumar Maurya** and Maunendra Desarkar. "Towards Low-resource Language Generation with Limited Supervision" at *Big Picture Workshop, EMNLP 2023*. ☑[Paper]
	> **Kaushal Kumar Maurya** and Maunendra Sankar Desarkar. "Meta-XNLG: A Meta-Learning Approach Based on Language Clustering for Zero-Shot Cross-Lingual Transfer and Generation" at *ACL 2022 (Findings)*. ☑[Paper]
	> **Kaushal Kumar Maurya**, Maunendra Sankar Desarkar, Yoshinobu Kano, and Kumari Deepshikha. "ZMBART: An Unsupervised Cross-lingual Transfer Framework for Language Generation" at *ACL 2021 (Findings)*. ☑[Paper]
	> Kamal Shrestha, Aditi Sanjay Bagora, **Kaushal Kumar Maurya**, and Maunendra Sankar Desarkar. "Hostility Detection in Online Hindi-English Code-mixed Conversations" at *WebSci 2022*. ☑[Paper]
	> **Kaushal Kumar Maurya**, Renjith P. Ravindran, Ch Ram Anirudh, and Kavi Narayana Murthy. "Machine Translation Evaluation: Manual Versus Automatic—A Comparative Study" at *DECT 2020*. ☑[Paper]
Responsible NLP	> Aishwarya Maheswaran, **Kaushal Kumar Maurya**, Manish Gupta, and Maunendra Sankar Desarkar. "DAC: Quantized Optimal Transport Reward-based Reinforcement Learning Approach to Detoxify Query Auto-Completion" at *ACM SIGIR 2024*. ☑[Paper]
	> Aishwarya Maheswaran*, **Kaushal Kumar Maurya***, Manish Gupta, and Maunendra Sankar Desarkar. "DQAC: Detoxifying Query Auto-completion with Adapters" at *PAKDD 2024*. ☑[Paper]
	> Arkadipta De, Venkatesh E, **Kaushal Kumar Maurya**, and Maunendra Sankar Desarkar. "Coarse and Fine-Grained Hostility Detection in Hindi Posts using Fine Tuned Multilingual Embeddings" at *CONSTRAINT workshop, AAAI 2021*. ☑[Paper] ☑Shared Task Best Paper Honorable Mention
Miscellaneous	> **Kaushal Kumar Maurya***, KV Aditya Srivatsa*, and Ekaterina Kochmar. "SELECTLLM: Query-Aware Efficient Selection Algorithm for Large Language Models" at ACL 2025 (Findings) ☑[Paper]
	> KV Aditya Srivatsa*, **Kaushal Kumar Maurya***, and Ekaterina Kochmar. "Harnessing the Power of Multiple Minds: Lessons Learned from LLM Routing" at *Insights from Negative Results Workshop, NAACL 2024*. ☑[Paper]
	> **Kaushal Kumar Maurya**, Maunendra Sankar Desarkar, Manish Gupta, and Puneet Agrawal. "TRIE-NLG: Trie Context Augmentation to Improve Personalized Query Auto-Completion for Short and Unseen Prefixes" at *ECML-PKDD 2023 (Journal Track: DAMI)*. ☑[Paper]
	> Venkatesh E, **Kaushal Kumar Maurya**, Deepak Kumar, and Maunendra Sankar Desarkar. "DivHSK: Diverse Headline Generation using Self-Attention based Keyword Selection" at *ACL 2023 (Findings)*. ☑[Paper]
	> Sreekanth Madisetty, **Kaushal Kumar Maurya**, Akiko Aizawa, and Maunendra Sankar Desarkar. "A Neural Approach for Detecting Inline Mathematical Expressions from Scientific Documents" at *Expert Systems 2020*. ☑[Paper]

* Equal Contribution.

🏆 AWARDS & HONORS

Grants	> Received a grant of USD 100,000 under prestigious *global* **Google Academic Research Award (GARA) 2024** as Co-PI for the project titled "*2σ Intelligent Tutoring System (ITS)*." ☑[Link]
	> Received a grant of INR 100,000 under the **Exceptional Research Scholar** category from IIT Hyderabad to attend an international conference, 2022.
	> **Microsoft Academic Partnership Grant (MAPG)** 2021 & 2022 – "Non-toxic Multilingual Personalized Auto-suggest Generation" (One of five awarded across India). Contributed as a key researcher during Ph.D.
	> Awarded the **Microsoft and ACL Travel Grant 2022** to present the Meta-XNLG work at ACL 2022 in Dublin, Ireland.
	> Received a **student travel grant** to attend CODS-COMAD in 2022 and 2023.
	> Awarded the **ACM SIGIR and ACM India–IARCS Travel Grant 2020** to present research at CIKM 2020.

Awards	> Received the **SAC Award** for the NAACL 2025 paper. ⬈[Link]
	> Honored with the **Annual Research Excellence Award 2024** from the Department of CSE, IIT Hyderabad.
	> Awarded Shared task **Best Paper Honorable Mention**, CONSTRAINT Workshop at AAAI 2021.
Fellowships	> Selected for full funded **Oxford University Machine Learning Summer School** in both 2022 and 2023.
	> Awarded the **Suzuki Foundation Fellowship** in 2020 and 2021 for short research stay at Japan.
Miscellaneous	> Featured *KiraIITH* magazine for the **joint Best Poster Presentation** on CSE Research Scholar Day 2021.
	> Secured **first rank** in photography challenge 2020 ("humanity and hope" category) at IIT Hyderabad.
	> Selected as the sole participant (competitive selection) from IIT Hyderabad for the **BBC & IITG Hackathon 2019**, received a fully sponsored trip to Google's office in Gurugram, India.
	> Participated in the **Google India Hackathon** held at the Hyderabad office in 2018.
	> Secured **second place** at the **University of Tokyo–IITH Workshop** hosted at IIT Hyderabad, 2018.
	> Ranked **second** in high school at the district level in Ballia, Uttar Pradesh.
	> Served as the **Winning Captain** of the National Cadet Corps (NCC) during 8th grade.

👤 PROFESSIONAL ENGAGEMENTS

Internships	**Microsoft India (R&D), Machine Translator Team, AUGUST 2022 - DECEMBER 2022** Topic: Machine Translation for Extremely Low-Resource Languages/Dialects > Proposed a novel MT system for extremely low-resource languages and dialects by exploiting lexical similarity with closely related high-resource languages. > **Publication:** EACL 2024
	Microsoft India (R&D), Auto-suggest Team, JUNE 2021 - JULY 2021 Topic: Personalized Auto-suggest Text Generation for Bing Search Engine > Proposed a hybrid approach to augment trie-based suggestions/completions in an NLG model for personalized auto-suggestions in the Bing Search Engine. > **Publication:** ECML-PKDD 2023 (Journal Track: DAMI)
	Nvidia AI Research Center, India, and Shizuoka University, Japan, MAY 2020 - JANUARY 2021 Topic: Towards Cross-lingual Transfer and Generation for Indian Languages > Proposed a novel unsupervised cross-lingual generation framework, ZmBART, to transfer supervision from a high-resource language to multiple low-resource languages. > **Publication:** ACL 2021 (Findings)
Collaboration	**Microsoft India (R&D), Academic Grant (Awarded for Two Consecutive Years), JULY 2021 - JUNE 2023** Topic: Non-toxic Multilingual Personalized Auto-suggest Generation Role: Lead PhD Researcher > Improved the quality of auto-suggestions for Bing Search Engine. > Reduced the problematic/toxic auto-suggestions for Bing Search Engine. > **Publications:** SIGIR 2024 and PAKDD 2024
Startup Advisor	**Technical Advisor at Lending Katalyst (AI-NLP Startup)** ⬈[Webpage] **, FEBRUARY 2022 - JUNE 2023** Topic: AI-Driven Automation for Property Title Verification > Directed AI-ML solutions to automate property title tracing for home buyers and financial institutions. > Addressed interdisciplinary problems involving NLP, multilinguality, legal domain, and linguistics.
Invited Talks (Selected)	**IEEE Student Branch Talk, IITG, India, MARCH 2025** > *Title:* Data Augmentation based approach for Extremely Low Resource Machine Translation **NLG Class, MBZUAI, Abu Dhabi, UAE, FEBRUARY 2025** > *Title:* Challenges in NLG Evaluation: Insights from Low-Resource and Educational Domain **NLP Team, National Research Council, Canada, OCTOBER 2024** > *Title:* Towards Machine Translation for Extremely Low Resource Languages **NLP Team, Google Research India, SEPTEMBER 2023** > *Title:* Meta-Learning for Low-Resource Language Generation **CSE Seminar Series, IIT Hyderabad, JUNE 2023** > *Title:* Hype to Reality: Responsible Text Generation with Large Language Models **SCIS, University of Hyderabad, India, APRIL 2022** > *Title:* Large Language Models and Responsible Text Generation **ASIC, NLP Reading and Discussion Group, MAY 2021** > *Title:* An Unsupervised Cross-lingual Transfer Framework for Language Generation

🎙 Media Coverage

Blog Post	Official MBZUAI Blog, May 2025 Title: Tutors of Tomorrow - A New Benchmark for Evaluating LLMs › Link: ✏ Blog
News	Emirates News Agency, November 2024 Title: MBZUAI Team Receives Google Academic Research Award › Link: 📰 News 🎬 Video ✏ Blog
Podcast	With Priya , October 2023 Topic: AI Research and My PhD Research Experience › Link: ▶ YouTube

⚙ Research Services

Organizer	› Datathon Chair at *IndoML 2025* (ongoing) 🗗 [Website]. › Co-organizer, *BEA Shared Task 2025*, co-located with *ACL 2025* (ongoing) 🗗 [Website] › Tutorial on "LLMs in Education," *COLING 2025* 🗗 [Website] › Served as the Head of Hybrid Infrastructure (Airmeet) for the *ACML 2022* › One-day workshop on "Sara Translator and Recent Trends in NLP," *SCIS, University of Hyderabad, 2016* › One-day NLP meet on "Challenges in Human Evaluation for Indian Languages," *SCIS, University of Hyderabad, 2017*
Session Chair	› Multilinguality and Language Diversity track at *NAACL 2025* › NLP Applications track at *COLING 2025*
Reviewer	› ACL [2021–25], EMNLP [2021–24], NAACL[2022-25], ARR, AAAI 2021, ICLR 2021, SIGTYP 2021, MLR 2021
Lead Volunteer	› EMNLP 2022 and ACML 2022
Volunteer	› ACL [2020–22] (in-person in ACL 2022), EMNLP [2020–23], ICLR [2020–21], NeurIPS [2020–22], NAACL [2021–22], CIKM 2021, ACML 2022 (in-person)

👥 Mentorship & Teaching Assistantship

Mentorship	› Supervised M.Tech students at IITH, contributing to peer-reviewed publications:
	  › Venkatesh E – ACL 2023 (Findings)
	  › Kamal Shrestha and Aditi Sanjay Bagora – WebSci 2022
	  › Arkadipta De and Venkatesh E – CONSTRAINT Workshop, AAAI 2021
	› Academic course project mentor at MBZUAI: NLG (Spring 2025, 1 group), NLP (Fall 2024, 2 groups)
	› Academic course project mentor at IITH:
	  › NLP (Spring 2023, 2 groups; Summer 2020, 4 groups; Winter 2019, 2 groups)
	  › NLP & IR (Spring 2023, 4 groups)
	  › IR (Fall 2021, 7 groups; Fall 2020, 8 groups)

Teaching	› Delivered a tutorial lecture on "Evaluation of Natural Language Generation (NLG)" at IITH (2025). › Conducted *lectures and hands-on sessions* for the NLP/IR course at IITH (2020–2023). › Presented a tutorial on "Introduction to RNNs" in a Faculty Development Program in Hyderabad (2020).

TA	› **MBZUAI:** NLG (Spring 2025, 15+ students), NLP (Fall 2024, 60+ students)
	› **IITH:**
	  › NLP & IR (Spring 2023, 45+ students)
	  › IR (Fall 2021, 25+ students; Fall 2020, 60+ students; Fall 2019, 30+ students)
	  › NLP (Spring 2021, 110+ students; Spring 2020, 45+ students)
	  › Algorithms (Spring 2019, 120+ students)
	› **University of Hyderabad:** Optimization Techniques (Spring 2017, 55+ students), NLP (Fall 2016, 20+ students)

❝ REFERENCES

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Principal Applied Scientist (R&D), MICROSOFT INDIA
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🌐 LANGUAGES

> Hindi
> English
> Bhojpuri

💡 INTERESTS

> Traveling, Reading, Swimming, Photography, and Cooking
> **Sports:** Cricket and Tennis