

SUKANNYA PURKAYASTHA

Research Intern, NEC Labs Europe, Kurfürsten-Anlage 36, 69115 Heidelberg

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RESEARCH INTERESTS

Computational Argumentation, Multilinguality, Cultural and Moral Competence in LLMs.

EDUCATION

Technische Universität Darmstadt, Germany

2022 - Present

PhD Computer Science

Ubiquitous Knowledge Processing Lab, Department of Informatik

Supervisors: Prof. Dr. Iryna Gurevych and Prof. Dr. Anne Lauscher

Indian Institute of Technology Kharagpur

2018 - 2021

Master of Science (MS) in Computer Science and Engineering

GPA: 9.67/10

Department of Computer Science and Engineering

Supervisors: Sudeshna Sarkar and Pawan Goyal

Gauhati University

2013 - 2017

Bachelor of Technology (B.Tech) in Computer Science and Engineering

GPA: 9.40/10

Department of Information Technology

TECHNICAL STRENGTHS

Computer Languages

C, C++, Python, SPARQL

Software & Tools

LaTeX, Tensorflow, Keras, Mxnet, Gluon, Scikit-Learn, PyTorch

RESEARCH AND WORK EXPERIENCE

NEC Labs Europe, Heidelberg

Oct 2025 - Present

Research Intern

Advisor: Shahbaz Syed and Carolin Lawrence

Designing and implementing feedback gathering and evaluation protocols for the automated research agent, 'Research Buddy' developed in-house at NEC Labs Europe.

UKP Lab, Technische Universität Darmstadt, Germany

July 2022 - Present

Doctoral Researcher

Advisor: Prof. Dr. Iryna Gurevych

Designing computational approaches with NLP techniques to assist stakeholders in decision-making processes such as peer reviewing.

TCS Research and Innovation, Kolkata

May 2021 - July, 2022

Researcher

Advisors: Sushant Vale and Sreedhar Reddy

Worked on enhancing conversational agents by integrating task-specific knowledge, like Fault Trees, using Bayesian inference, reducing uncertainty and improving problem-solving.

IBM Research Labs, Bangalore

May 2020 - Aug 2020

Research Intern

Advisors: Dr. Saswati Dana and Dr. Dinesh Garg

Developed a modular two-stage architecture combining SPARQL silhouette generation and a Neural Graph Search module to enhance Knowledge graph-based question answering.

IIT Kharagpur*Junior Project Officer*

May 2018 - Mar 2021

Advisors: Prof. Sudeshna Sarkar and Dr. Pawan Goyal

Designed neural models for predicting drug-drug interactions and normalizing biomedical entities.

IIT Guwahati*Undergraduate Research*

Jan 2017 - June 2017

Advisor: Dr. Pinaki Mitra

Performed a Comparative Study of the performance of Switched Networks for varying packet sizes

IIT Guwahati*Summer Internship*

June 2016 - July 2016

Dr. Tamarapalli Venkatesh

Worked on developing an Android based Movement detection framework for an ICT based project.

ACADEMIC HIGHLIGHTS

- Selected as one of the great reviewers for ARR July, 2025.
- All India Rank **94** in Joint Entrance Screening Test (Theoretical Computer Science), 2018.
- Secured **97.42** percentile in GATE (CS), 2018 out of 1,07,893 candidates.
- University Topper for the B.Tech batch of 2013-2017 at Gauhati University.

PUBLICATIONS

- **Purkayastha Sukannya**, Dycke Nils, Lauscher Anne, Gurevych Iryna, '*Decision-making with Deliberation: Meta-Reviewing as a Document Grounded Dialogue*', **under submission**.
- **Purkayastha Sukannya**, Wan Qile, Lauscher Anne, Qu Lizhen, Gurevych Iryna, '*Reviewing the Reviewer: Elevating Peer Review Quality through LLM-Guided Feedback*', **under submission**.
- Mullick Ankan, **Purkayastha Sukannya**, Sharma Saransh, Goyal Pawan and Ganguly Niloy, '*IDALC: A Semi-Supervised Framework for Intent Detection and Active Learning based Correction*', **IEEE Transactions on Artificial Intelligence (IEEE TAI)**, 2025.
- Purkayastha Saugata and **Purkayastha Sukannya**, '*On Riemannian Gradient Descent Algorithm using gradient averaging*', **17th OPT Workshop on Optimization for Machine Learning** at Neural Information Processing Systems (NeurIPS), 2025.
- Villa-Cueva Emilio, Bolatzhanova Sholpan, . . . , **Purkayastha Sukannya**, 31 others, '*CaMMT: Benchmarking Culturally Aware Multimodal Machine Translation*', **Findings of Empirical Methods of Natural Language Processing (EMNLP Findings)**, 2025.
- **Purkayastha Sukannya**, Li Zhuang, Lauscher Anne, Qu Lizhen, Gurevych Iryna, '*LAZYREVIEW: A Dataset for uncovering Lazy Thinking in NLP Peer Reviews*', **Association for Computational Linguistics (ACL Main)**, 2025.
- Purkayastha Saugata, **Purkayastha Sukannya**, '*On the performance of Grad-Avg algorithm on Foundation NLP models*', **Data Science Meets Optimization (DSO) Workshop** at International Joint Conference on Artificial Intelligence (IJCAI), 2024
- Romero David, Lyu Chenyang, . . . , **Purkayastha Sukannya**, 62 others, '*CVQA: Culturally-diverse Multilingual Visual Question Answering Benchmark*', **NeurIPS Datasets and Benchmarks Track**, 2024
- Dana Saswati, Garg Dinesh, Khandelwal Dinesh, Bhargav GP Shrivatsa and **Purkayastha Sukannya**, '*Knowledge graph question answering with neural machine translation*', **US Patent No. US20240004907A1**, issued Jan 4, 2024.

- **Purkayastha Sukannya**, Lauscher Anne, Gurevych Iryna, ‘*Exploring Jiu-Jitsu Argumentation for Writing Peer Review Rebuttals*’, **Empirical Methods of Natural Language Processing (EMNLP Main)**, 2023
- **Purkayastha Sukannya**, Ruder Sebastian, Pfeiffer Jonas, Gurevych Iryna, Vulić Ivan, ‘*Romanization based Large-scale adaptation of Multilingual Language Models*’, **Findings of Empirical Methods of Natural Language Processing (EMNLP Findings)**, 2023
- Clifton Poth, Hannah Sterz, Indraneil Paul, **Purkayastha Sukannya**, Leon Englaender, Timo Imhof, Vulić Ivan, Ruder Sebastian, Gurevych Iryna, Pfeiffer Jonas ‘*Adapters: A Unified Library for Parameter-Efficient and Modular Transfer Learning*’, **Empirical Methods of Natural Language Processing Demonstrations (EMNLP Demos)**, 2023
- **Purkayastha Sukannya**, Dana Saswati, Garg Dinesh, Khandelwal Dinesh and Bhargav GP Shrivatsa, ‘*A Deep Neural Approach to KGQA via SPARQL Silhouette Generation*’, **IEEE International Joint Conference on Neural Networks (IEEE IJCNN)**, 2022
- **Purkayastha Sukannya***, Mullick Ankan*, Goyal Pawan and Ganguly Niloy, ‘*A Framework to Generate High-quality Datapoints for Multiple Novel Intent Detection*’, **Findings of North American Association for Computational Linguistics (NAACL Findings)**, 2022
- **Purkayastha Sukannya**, ‘*Extracting Adverse Drug Reactions from Tweets using Aspect Based Sentiment Analysis*’, **2nd Women in Machine Learning Un-Workshop** at International Conference on Machine Learning (ICML), 2021
- Purkayastha Saugata and **Purkayastha Sukannya**, ‘*A variant of Gradient descent Algorithm Based on Gradient Averaging*’, **12th OPT Workshop on Optimization for Machine Learning** at Neural Information Processing Systems (NeurIPS), 2020.
- **Purkayastha Sukannya**, Dana Saswati, Bhargav GP Shrivatsa, Khandelwal Dinesh, Garg Dinesh, ‘*Entity and Relation Linking is All You Need for KGQA*’, **15th Women in Machine Learning Workshop** at Neural Information Processing Systems (NeurIPS), 2020.
- **Purkayastha Sukannya***, Mondal Ishani*, Sarkar Sudeshna, Goyal Pawan and Pillai Jitesh K, ‘*Drug-Drug Interactions Prediction based on Drug Embedding and Graph Auto-Encoder*’, **19th IEEE International Conference on Bioinformatics and Bioengineering (BIBE)** 2019, Athens, Greece, October 28-30, 2019.
- Mondal Ishani, **Purkayastha Sukannya**, Sarkar Sudeshna, Goyal Pawan, Pillai Jitesh, Bhattacharyya Amitava and Gattu Mahanandeeswar, ‘*Medical Entity Linking using Triplet Network*’, **2nd ClinicalNLP workshop** at North American Chapter of the Association for Computational Linguistics (NAACL) 2019, Minneapolis, USA, June 2-7, 2019.

CONFERENCE PRESENTATIONS AND INVITED TALKS

- **ACL’25** July, 2025
LAZYREVIEW: A Dataset for uncovering Lazy Thinking in NLP Peer Reviews
- **EMNLP’23** December, 2023
Exploring Jiu-Jitsu Argumentation for Peer Review Rebuttals
- **University of Hamburg** August, 2023
Exploring Jiu-Jitsu Argumentation for Peer Review Rebuttals
- **WiML@ICML’21** July, 2021
Extracting Adverse Drug Reactions from Tweets using Aspect Based Sentiment Analysis

- **OPT@NeurIPS'20** Dec, 2020
A Variant of Gradient Descent Algorithm Based on Gradient Averaging
- **WiML@NeurIPS'20** Dec, 2020
Entity and Relation Linking is all you need for KGQA
- **ACM IRISS'20** Feb, 2020
Drug-Drug Interactions Prediction based on Drug Embedding and Graph Auto-Encoder
- **ACM GHCI'19** Nov, 2019
Improved Drug-Drug Interaction Prediction with Graphs and Molecular Structure
- **ACM GHCI'19** Nov, 2019
Medical Entity Linking using Triplet Network

ACHIEVEMENTS

Scholarships

- Funding from WiML to attend ICML, 2021 (virtual).
- Funding from WiML to attend NeurIPS, 2020 (virtual).
- ACM Travel grant for poster presentation at ACM Inter-Research-Institute Student Seminar in Computer Science at IIT Gandhinagar.
- Grace Hopper Scholar, 2019
- 'Ishan-Uday' scholarship holder, awarded to top 10,000 students of North-East India pursuing technical undergraduate courses.

Awards

- Dewang Mehta Felicitation of Toppers at Kaziranga University, Assam, India 2015.
- Regional Winner at a Networking Workshop at Gauhati University organized by Network Bulls in co-ordination with IIT Kanpur, 2015.
- Felicitation by the Inspector of Schools, Dhubri, Assam, India for securing Distinction Marks in HSLC examination, 2011.

SERVICE

- **Volunteer:** SOS Conference'23 (TU Darmstadt), WiML workshop @NeurIPS'20, ISCLS'19 (IIT Kharagpur), ACM GHCI'19.
- **Reviewer:** ARR (NAACL, EMNLP, ACL, EACL, AACL), IEEE TALLIP, IEEE Access, WiNLP@EMNLP.

TEACHING

- Mentor for Data Analysis and Software project (DASP) at TU Darmstadt.
- Teaching Assistant for Programming and Datastructures Lab (2020) at IIT Kharagpur.
- Teaching Assistant for Natural Language Processing (2019) at IIT Kharagpur.

- Teaching Assistant for Introduction to Machine Learning (NPTEL) (2019) offered by IIT Kharagpur
- Teaching Assistant for Switching Circuits and Logic Design (2019) at IIT Kharagpur.

REFERENCES

- Prof. Dr. Iryna Gurevych
Full Professor (W3)
Computer Science Department
Technische Universität Darmstadt, Germany
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- Prof. Dr. Anne Lauscher
Associate Professor of Data Science
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- Sebastian Ruder
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