Dipendra Yadav

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☐ dipen-yadav | ☐ dipen-yadav | ☎ google scholar

Rostock, Germany

Objective

PhD candidate in Machine Learning Research with a background in Natural Language Processing (NLP) and software engineering, currently researching the use of neuro-symbolic reasoning to enhance the explainability in large language models.

Education

• University of Greifswald

January 2023 - Present

PhD Candidate

Greifswald, Germany

• The doctoral research focuses on explainability methods for machine learning models (with a focus on large language models).

• University of Rostock

October 2017 - July 2020

 $MSc\ in\ Electrical\ Engineering$

Rostock, Germany

- German Grade: 1.5 (very good, where 1.0 is best and 5.0 is worst)
- Concentration: Natural language processing, Machine Learning.

• Visvesvaraya Technological University

2011 - 2015

Bachelor in Electrical and Electronics Engineering

Bengaluru, India

• Grade: 76.53% (First Class with Distinction, 2nd rank in the class of 63 students)

Professional Experience

• University of Rostock

January 2022 - September 2022

Research Assistant

Rostock, Germany

• Research in Neural Density Estimation as part of Neuronal extraction of information, structures and symmetries in images (NEISS) project [Poster].

• PlanetAI GmbH

May 2020 - January 2022

Software Engineer

Rostock, Germany

- Developed frontend and backend for Intelligent Document Analysis (IDA) software.
- Built CI/CD pipelines on DroneCI [reference letter].

• Market Logic Software

November 2019 - April 2020

Student Assistant Data Scientist

Berlin, Germany

• Assisted in the research and development of NLP tools for analyzing Natural Language Data to support business insights [reference letter].

• PlanetAI GmbH

April 2019 - March 2020

Research Intern and Master Thesis in NLP

Rostock, Germany

- Master Thesis: Researched state-of-the-art methods for transfer learning for Deep NLP systems on rarely annotated languages (Hindi and Nepali).
- Internship: Investigated and enhanced BLSTM-CNN-CRF model performance for NER through multitask learning [recommendation letter].

Publications

- [1] Yadav, Dipendra, et al. (2024). Prompt Engineering for Nepali Named Entity Recognition: A Case Study for Low-Resource Languages(In-Submission)
- [2] Yadav, Dipendra, et al. (2024). Cross-Lingual Named Entity Recognition for Low-Resource Languages: A Hindi-Nepali Case Study Using Multilingual BERT Models MRL@EMNLP2024: Proceedings of the 4th Workshop on Multi-lingual Representation Learning at EMNLP 2024. Association for Computational Linguistics (ACL).
- [3] Yadav, Dipendra, et. al (2024). A Comparative Analysis on Machine Learning Techniques for Research Metadata: the ARDUOUS Case Study. INFORMATIK 2024 Gesellschaft für Informatik e.V.
- [4] Yadav, Dipendra. (2023). Evaluating Dangerous Capabilities of Large Language Models: An Examination of Situational Awareness. DC@KI2023: Proceedings of Doctoral Consortium at KI 2023.
- [5] Yadav, Dipendra, et al. (2020). Exploring Transfer Learning for Deep NLP Systems on Rarely Annotated Languages. arXiv preprint 2410.12879.

Teaching Assistant

Mathematics of Artificial Intelligence
 Winter Semester 2024/25, University of Greifswald

Relevant Activities

- Selected by the German Centre for Research and Innovation for a two-week start-up tandem program hosted at IISc Bengaluru, India.
- Co-organized the 8th International Workshop on Annotation of useR Data for UbiquitOUs Systems at Informatik Festival 2024, Germany.
- Participated in the EuADS Summer School Generative AI 2024, Luxembourg.
- Attended Oxford Machine Learning Summer School (OxML) 2023.
- Selected for the fully-funded Swiss AI Safety Summer Camp 2023.
- Attended the AI Safety fundamentals alignment course by AI Safety Sweden.

Honours and Awards

- Special Award for Digital Innovation and Process Optimization (2018).
- 3rd Place in the Graduate and Researcher category at the Idea Competition (2018).

Skills

- Programming Languages: Python, Java, Bash, Git.
- Frameworks: TensorFlow, Pytorch, Scikit-learn, Docker.
- Languages: German (B2), English (C1), Hindi, Nepali, Mithali (All Native).

References

- Prof. Dr.-Ing Kristina Yordanova University of Greifswald, Germany kristina.yordanova@uni-greifswald.de
- Dr. rer. nat. Tobias Strauß
 University of Rostock, Germany
 tobias.strauss@uni-rostock.de
- Dr. Emma Tonkin University of Bristol, United Kingdom E.L.Tonkin@bristol.ac.uk