Dipendra Yadav

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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) in the healthcare domain.
- **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, Artificial Intelligence, Software Engineering
- **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
  - Researched in deep learning-based generative models like variational Autoencoders and GANs for neural density estimation.
  - Contributed to the NEISS project, presenting a poster at the Abschluss-Seminar.
- **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.
  - Extracted relevant information to optimize decision-making processes (Letter of Reference).
- **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.

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.
- 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.
- 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, Keras, Scikit-learn, Docker.
- **Languages:** German (Intermediate), English (Fluent), Hindi, Nepali, Mithali.

References

- **Prof. Dr.-Ing Kristina Yordanova**
  University of Greifswald, Germany
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- **Dr. rer. nat. Tobias Strauß**
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- **Dr. Emma Tonkin**
  University of Bristol, United Kingdom
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