Niraj Pahari

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EDUCATION

Kyushu Institute of Technology — Fukuoka, Japan
Ph.D. candidate in Natural Language Processing — *Oct. 2021 – Present (Expected Graduation: Sept. 2024)*

King Mongkut's Institute of Technology Ladkrabang — Bangkok, Thailand
M.E. in Robotics and Computational Intelligence Systems — *Aug. 2019 – July 2021*

Tribhuvan University — Kathmandu, Nepal
B.E. in Computer Engineering — *Dec. 2010 – July 2014*

EXPERIENCE

Shimada Laboratory, Kyushu Institute of Technology, Japan — Oct 2021 – Present
Phd Researcher

- Studied of multiple encoder systems in multi-task and single-task settings for sentiment analysis in monolingual and code-mixed sentences respectively.
- Utilized of data augmentation and semi-supervised learning for handling data scarcity in code-mixed scenarios.
- Performed statistical tests (chi-squared and z-test) for testing the hypothesis for socio-linguistics behaviour of multilingual speakers in social media in context of Nepal.
- Published and presented multiple research papers in international journal and conferences.
- **Technology/Tools used:** PyTorch, Transformers, Scikit-learn, TextAttack, Numpy, Pnadas, Matplotlib, FlairNLP, NLTK, TextAttack, WandB, Doccano

Robotics and AI Laboratory, KMITL, Thailand — Aug. 2019 – July 2021
Master's Researcher and Software Developer

- Studied paraphrase identification using the features from word and sentence level embeddings.
- Developed full stack web application for vaccine management system for *Department of Disease Control, Thailand* with Django serving a REST API with React as the frontend
- Developed Industrial Robot module for the KRAI platform using *ROS MoveIT!* for interfacing *ABB IRB 1100* industrial robot with web interface.
- **Technology/Tools used:** Scikit-learn, NLTK, TextHero, Django-Rest Framework, React, ROS, Roslibjs

Genese Solution Pvt. Ltd., Nepal — Jan 2015 – July 2019
Software (Backend) Developer

- Wrote automation scripts for websites using *Request, BeautifulSoup, and Selinium.*
- Developed REST APIs for multiple web applications using *Django REST framework*
- Held the responsibility of working with various international clients remotely, and eliciting the requirements from the clients and implementing the solution.
- Certified with **AWS Certified Developer - Associate** (JXZ5MSMC2E1EQBC0).
- **Technology/Tools used:** Django-REST framework, Agile development, JIRA, Git, Celery, Requests, BeautifulSoup, Selenium, AWS, SQL

ADDITIONAL EXPERIENCE

Robotics and AI Laboratory, KMITL, Thailand — Aug. 2019 – July 2021
Laboratory Instructor

- Instructed laboratory courses for Industrial Robotics (ABB Robots), Mobile Robotics (ROS with Turtlebot), Python with Image Classification and Programming in C.
- Prepared laboratory course materials including the supervision of student projects for each course.
- Supervised exchange students from Indian university for 1 month exchange with KMITL.

Soch College of IT, Nepal — July 2016 – July 2019
Part-Time Lecturer

- Lectured undergraduate level courses: DBMS, Advanced-DBMS, and Artificial Intelligence.
- Prepared course materials for theory and practical sessions for each course including the supervision of student projects for each course.

SKILLS

- **Languages:**

  - Fluent in English, Nepali, and Hindi
  - Basic conversation in Japanese and Thai

- Strong communication skills developed from presentation in academic conferences and teaching.

- Ability to work independently and in a team with experience in working on Agile framework.

PUBLICATIONS

- Pahari, N. and Shimada, K., (2024). Share What You Already Know: Cross-Language-Script Transfer and Alignment for Sentiment Detection in Code-Mixed Data. arXiv preprint arXiv:2402.04542

- Pahari, N. and Shimada, K., (2024). Layer Configurations of BERT for Multitask Learning and Data Augmentation. Journal of Advanced Computational Intelligence and Intelligent Informatics

- Pahari, N. and Shimada, K., (2023). Language Preference for Expression of Sentiment for Nepali-English Bilingual Speakers on Social Media. Sixth Workshop on Computational Approaches to Linguistic Code-Switching (CALCS-EMNLP2023 Workshop)

- Zhu, C., Pahari, N. and Shimada, K., (2023). Multilingual Symptom Prediction by Simultaneous Learning using BERT. 2023 International Conference on Asian Language Processing

- Pahari, N. and Shimada, K., (2023). Handling data scarcity in code-mixing using learning-based approaches. 13th International Congress on Advanced Applied Informatics (IIAI-AAI), IEEE

- Pahari, N. and Shimada, K., (2022). Multi-task learning using bert with soft parameter sharing between layers. Joint 12th International Conference on Soft Computing and Intelligent Systems and 23rd International Symposium on Advanced Intelligent Systems (SCIS & ISIS), pp 1-6.

- Pahari, N. and Shimada, K., (2023). Character-level data augmentation on code mixed sentences for low-resource settings. The 29th Annual Conference of the Association for Natural Language Processing (NLP2023), P1-6, pp 161-165.

- Zhu, C., Pahari, N. and Shimada, K., (2023). BERTを用いた多言語同時学習による疾患分類. 言語処理学会第29回年次大会(NLP2023), P1-7, pp 166-170.

- Pahari, N. and Kaitwanidvilai, S., (2021). Semantic similarity calculation using the features from pre-trained vector and sentence level embedding. The 7th International Conference on Engineering, Applied Sciences and Technology (ICEAST), pp 218-226.

- Devkota, B., Miyazaki, H. and Pahari, N. (2019). Utilizing user generated contents to describe tourism areas of interest. First International Conference on Smart Technology & Urban Development (STUD), pp 1-6.