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Rabindra Lamsal

Education

Ph.D. Candidate (Computer Science), School of Computing and Information Systems, University of Melbourne, Victoria, 2021–2024.
Thesis: Situation awareness from near-real-time microblog conversations during mass emergency

M.Tech (Computer Science), Jawaharlal Nehru University, New Delhi, 2017–2019.
CGPA: 8.70/9.0 (High First Class), Equivalent Percentage: 92% out of 95%
Thesis graded 9.0 out of 9.0.

BE (Computer Engineering), Kathmandu University, Dhulikhel, 2012–2016.
Junior-Senior year CGPA: 3.29/4.0

12th (Science), HSEB, United Academy, Lalitpur, 2009–2011.
Percentage: 81.04% (Distinction)

Ongoing International Impact

An open access billion-scale COVID-19 tweets dataset at IEEE.

The dataset has garnered international attention and is being used extensively. As of April 2022, the dataset has more than 2 billion tweets, making it the largest English language COVID-19 specific tweets collection; based on the stats recorded by IEEE, the dataset (including its geo version) has been accessed more than 167k times, globally. These datasets won both the Spring 2019 and Spring 2020 IEEE DataPort Data Competitions. [primary-dataset] [associated paper] [dashboard for Autstralia]

Interests

Machine Learning and Self-Attention models, NLP, Crisis Computing

Abilities

Libraries: TensorFlow, Transformers, Scikit-learn, NLTK, NumPy, Pandas, Dash, twarc,
Programming: Python, C, *Misc*: SQL, Linux Administration, Twitter APIs, LaTeX

Publications

Journal articles

Lamsal, R., Harwood, A., & Read, M. R. (2022). Socially Enhanced Situation Awareness from Microblogs using Artificial Intelligence: A Survey. *ACM Computing Surveys.*

Lamsal, R., Harwood, A., & Read, M. R. (2022) Twitter conversations predict the daily COVID-19 cases. [*under review at a journal*]

Lamsal, R. (2021). Design and analysis of a large-scale COVID-19 tweets dataset. *Applied Intelligence*, 51(5), 2790-2804.

Lamsal, R., & Kumar, T. V. (2021). Twitter-Based Disaster Response Using Recurrent Nets. *IJSKD*, 13(3), 133-150.

Lamsal, R., & Katiyar, S. (2020). cs-means: Determining optimal number of clusters based on a level-of-similarity. *SN Applied Sciences*, 2(11), 1-9.

Book Chapters

Lamsal, R., & Kumar, T. V. (2020). Artificial Intelligence and Early Warning Systems. In *AI and Robotics in Disaster Studies* (pp. 13-32). Palgrave Macmillan, Singapore.

Lamsal, R., & Vijay Kumar, T. V. (2020). Artificial Intelligence Based Early Warning System for Coastal Disasters. In *Development in Coastal Zones and Disaster Management* (pp. 305-320). Palgrave Macmillan, Singapore.

Lamsal, R., & Vijay Kumar, T. V. (2019). Artificial Intelligence based Disaster Response Systems. *Fourth World Congress on Disaster Management.* January 29-February 1, 2019, IIT Bombay, India. [book]

at arXiv

Lamsal, R., & Choudhary, A. (2018). Predicting Outcome of Indian Premier League (IPL) Matches Using Machine Learning. arXiv preprint arXiv:1809.09813.

Grants & allowances

Melbourne Research Scholarship (2021-2024, Fee Offset & Stipend), The University of Melbourne, Victoria, Australia.

Infrastructure credits since 2020 as a part of *Hollie's Hub for Good* program. By Digital Ocean. New York, United States.

Honorariums and allowances (2018-2019), Special Centre for Disaster Research, Jawaharlal Nehru University, New Delhi, India.

Travel and Accommodation grant (2019). Fourth World Congress on Disaster Management, Indian Institute of Technology (IIT) Bombay, Mumbai, India.

Travel grant and allowances (2013-2016). Linux Terminal Server Project (LTSP). Help Nepal Network, Kathmandu Nepal.

Work Experience

Project Associate, Special Centre for Disaster Research, Jawaharlal Nehru University, New Delhi, 2018–2019.

Developed AI-based Disaster Response Systems. Presented research works.

Junior System Administrator, Annapurna Post, Kathmandu, 2016–2017.

Founder Coordinator, Kathmandu University WordPress Club, Dhulikhel, 2015–2016.

System Administrator, Kathmandu University Boys Hostel, Dhulikhel, 2014–2015.

Senior Volunteer, Help Nepal Network (HeNN), Kathmandu, 2013–2016.

Trainer, Community Education Project (CEP), Kathmandu University, Dhulikhel, 2013.

Academic projects

Live Twitter Sentiment [web app]

Indian Premier League (IPL) Matches Prediction Model [arXiv:1809.09813]

Fabrication of Microstrip Patch Antenna [GitHub]

A Microstrip Patch Antenna designed in MATLAB, simulated in Computer Simulation Tool (CST) and fabricated in Lab. Project carried out as a part of the course *Wireless Sensor Networks*.

Inventory Management System [GitHub]

A complete Inventory Management System, written in PHP and MySQL. Project carried out as a part of the course *Database Management Systems.*

Noise Buzzer

An embedded system capable of detecting noise, and triggering sound alarm.

Duckworth-Lewis Calculator

An android application to calculate revised cricket scores after a game is interrupted due to rain.

Car Racing Game

A C language based 2D car racing game, selected for showcasing at CAN Softech 2013.

Voluntary works

Organizer. Coded for the 2019 EngQuest competition - The Knapsack Problem and The Travelling Salesman Problem, Jawaharlal Nehru University.
Organized IT MEET (2016, 2013), Kathmandu University.
Contributed as System Developer at Sports Week (2016), Kathmandu University.
Organized various WordPress Workshops (2015 - 2016).
Volunteered in IT MEET (2014), Kathmandu University.
Executive Member (2013 - 2015) of Kathmandu University Computer Club.
Participated in Google Translate Community (2014).
Volunteered in National Workshop (2014) on the 'Primer Series on ICTD for Youth': Project Management and ICTD.

References

Available upon request.