

2183 McLaughlin Ave, Apt #2
San Jose, CA, 95122

Email: hiteshsapkota@gmail.com
Phone: (585) 355-8566

Research Interests: Reinforcement Learning, Natural Language Processing, Generative AI, Large Language Model, Visual Question Answering, Bayesian Learning, Multiple Instance Learning, Distributionally Robust Optimization, Active Learning, Anomaly Detection, Openset Detection, Sparse Learning, Adversarial Learning.

PUBLICATIONS

- Sapkota H., Wang D., Tao Z., Yu Q. Distributionally Robust Ensemble of Lottery Tickets Towards Calibrated Sparse Network Training. **NeurIPS2023**.
- Sapkota H., Yu Q. Adaptive Robust Evidential Optimization For Open Set Detection from Imbalanced Data. **ICLR2023**.
- Sapkota H., Yu Q. Balancing Bias and Variance for Active Weakly Supervised Learning. **KDD2022**.
- Sapkota H., Yu Q. Bayesian Nonparametric Submodular Video Partition for Robust Anomaly Detection. **CVPR2022**.
- Sapkota H., Ying Y., Chen F., Yu Q. Distributionally Robust Optimization for Deep Kernel Multiple Instance Learning. **AISTATS2021**.
- Wang D., Sapkota H., Liu X., Yu Q. Deep Reinforced Attention Regression for Partial Sketch Based Image Retrieval. **ICDM2021**.
- Alshangiti, M., Sapkota, H., Murukannaiah P.K., Liu X., Yu, Q. Why is Developing Machine Learning Applications Challenging? A Study on Stack Overflow Posts. **ESEM 2019**.
- Sapkota, H., Murukannaiah P.K., Wang Y. A Network Centric Approach for Estimating Trust between Open Source Software Developers. **PLOS ONE 2019**.

EDUCATION

2017 - 2023 Ph.D. in Computing and Information Sciences. **GPA:** 3.84/4
Rochester Institute of Technology, Rochester, NY, USA.
Relevant Courses: *Deep Learning, Quantitative Foundation, Research Foundation, Data Driven Knowledge Discovery.*

2012 - 2015 BE in Electronics and Communication Engineering. **Percentage:** 81%
Tribhuvan University, Institute of Engineering, Lalitpur, Nepal.
Relevant Courses: *Statistical Data Mining, Big Data, Artificial Intelligence.*

WORKING EXPERIENCE

Applied Scientist II (L5), Amazon, Hardware-Product Integrity

Amazon, Sunnyvale, CA

2023 DEC - Present

- *Creating a sophisticated Large Language Model (LLM) to aid engineers by offering solutions to challenging hardware manufacturing-related queries.*

Applied Scientist Intern, Amazon, Hardware-Product Integrity

Amazon, Sunnyvale, CA

2022 MAY - 2022 AUG

- Designed and Implemented embedding adaptation using attention-based architecture in gas sensor technologies leading to 6% improvement in the baseline.

Applied Scientist Intern, AWS, Support

Amazon, Seattle, WA

2021 JUN - 2021 AUG

- Designed ML models to detect AWS service failures (issues) early before impacting customers significantly leading to 4% improvement in the competitive technique.

Research Assistant, Machine Learning and Data Intensive Computing

Rochester Institute of Technology, Rochester, NY

2017 AUG - 2023 DEC

- Developed Distributionally Robust Optimization (DRO) based Bayesian Multiple Instance Learning technique for Anomaly Detection resulting.
- Developed Deep Reinforcement Learning technique for Partial Sketch based Image Retrieval.
- Developed Evidential Openset Detection techniques considering Imbalance Classes and Few Shot Learning Setting.
- Developed Distributionally Robust Ensemble of Sparse Networks for better Calibration, Debaised, and Openset Detection Performance.
- Developed Generalized Focal Loss Ensemble of Low-Rank Networks for Calibrated Visual Question Answering.

TEACHING EXPERIENCE

Lecturer, Software Engineering

Rochester Institute of Technology, Rochester, NY, USA 2023 JAN - 2023 MAY

- Taught a graduate level Research Methods course for MS students.
- Supervised MS students for the Capstone/Thesis proposal.
- Supervised MS students to find appropriate advisors for their Capstone/Thesis proposal.

Teaching Assistant, Electronics and Electrical Engineering

Kathmandu University, Dhulikhel, Nepal 2016 AUG - 2017 AUG

- Taught multiple electrical and electronics engineering related undergraduate courses.
- Supervised electrical engineering related projects for undergraduate students.

ACADEMIC AWARDS

- **RIT Travel Award (2022)**. Financial support to travel and attend CVPR2022 at New Orleans, LA, USA.
- **KDD Travel Award (2022)**. Financial support to travel and attend KDD2022 at Washington DC, USA.
- **RIT Ph.D. Merit Scholarship. (2017 - 2023)**. Financial support for Ph.D. at the Rochester Institute of Technology.
- **Ncell Scholarship and Excellence Award. (2014)**. Financial support from Ncell for excellent academic performance in the Bachelor of Engineering, Institute of Engineering, Pulchowk Campus.

ACADEMIC SERVICE

- Reviewer on ICLR, CVPR (2024)
- Reviewer on Neurocomputing, NeurIPS, IEEE TCDS (2023)
- Subreviewer on IJCAI, KDD (2023)
- PC Member on CVPR, TrustNLP (2022)
- Student volunteer on SIGKDD Conference on Knowledge Discovery and Data Mining (2022)
- Subreviewer on IEEE BigData, AAI, ESWA, ECCV, MICCAI (2022)
- Subreviewer on ICWS/SCC (2021)

- Subreviewer on CPE, ICWS, IEEE Cloud (2020)

TECHNICAL SKILLS

- **Languages/Programming:** Python, Java, MATLAB, C/C++, R.
- **Deep Learning Packages:** Keras, Tensorflow, PyTorch, Caffe.