Manish **Munikar**

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Education

University of Texas at Arlington, PhD in Computer Science		CGPA: 4.0	*2020 – 2025 (expected)*	*Arlington, TX, USA*
Tribhuvan University, Bachelors in Computer Engineering		Grade: 80%	*2013 – 2017*	*Kathmandu, Nepal*

Publications

- M. Munikar, J. Lei, H. Lu and J. Rao, "ECON: Expedited Container Overlay Networks," submitted to OSDI 2024
- J. Lei, **M. Munikar**, H. Lu and J. Rao, "Accelerating Packet Processing in Container Overlay Networks via Packet-level Parallelism," in *37th IEEE International Parallel and Distributed Processing Conference (IPDPS '23)*, 2023. DOI: 10.1109/IPDPS54959.2023.00018
- **M. Munikar**, J. Lei, H. Lu and J. Rao, "PRISM: Streamlined Packet Processing for Containers with Flow Prioritization," In *Proceedings of the 42nd IEEE International Conference on Distributed Computing Systems (ICDCS '22)*, 2022. DOI: 10.1109/ICDCS54860.2022.00040
- J. Lei, **M. Munikar**, K. Suo, H. Lu and J. Rao, "Parallelizing Packet Processing in Container Overlay Networks," In *Proceedings of the Sixteenth European Conference on Computer Systems (EuroSys '21)*, pp. 261–276, 2021, DOI: 10.1145/3447786.3456241
- **M. Munikar**, S. Shakya and A. Shrestha, "Fine-grained Sentiment Classification using BERT," *2019 IEEE International Conference on Artificial Intelligence for Transforming Business and Society (AITB '19)*, Kathmandu, Nepal, 2019, DOI: 10.1109/AITB48515.2019.8947435
- P. Dhakal, **M. Munikar** and B. Dahal, "One-Shot Template Matching for Automatic Document Data Capture," *2019 IEEE International Conference on Artificial Intelligence for Transforming Business and Society (AITB '19)*, Kathmandu, Nepal, 2019, DOI: 10.1109/AITB48515.2019.8947440

Work Experience

Cloud & Big Data Lab, University of Texas at Arlington — *Arlington, TX, USA*
GRADUATE RESEARCH ASSISTANT — *Jan 2020 – Present*
- Studied the behavior of container overlay network on Linux in great technical detail, and researched ideas to optimize its performance.

Amazon — *Bellevue, WA, USA*
APPLIED SCIENTIST INTERN — *May 2024 – Aug 2024*
- Researched ways to improve ML performance in the presence of limited labels using various data cleaning and semi-supervised methods.

Amazon — *Sunnyvale, CA, USA*
APPLIED SCIENTIST INTERN — *May 2022 – Aug 2022*
- Researched and evaluated ways to detect anomalies in human label datasets.

Amazon — *Sunnyvale, CA, USA*
APPLIED SCIENTIST INTERN — *May 2021 – Aug 2021*
- Developed models to detect global inconsistencies in the Amazon catalog.

Docsumo — *Kathmandu, Nepal*
DATA SCIENTIST — *Jul 2018 – Dec 2019*
- Developed computer vision object-detection models (Faster R-CNN, YOLO, SSD) and text-based models to identify key points in documents.
- Developed a novel template-based engine to extract structured information from document images with over 90% accuracy.
- Gained experience in all stages of data science projects: data collection & annotation, model development & evaluation, and production-ready model deployment.
- Developed predictive analysis systems to detect anomalies in time-series data.

LIS Nepal Pvt. Ltd. — *Lalitpur, Nepal*
SOFTWARE DEVELOPER — *Oct 2017 – Jun 2018*
- Developed business intelligence (BI) reports for global retail enterprises using large-scale optimized SQL queries.
- Wrote data integration scripts using big data technologies (Hadoop, Hive, Sqoop, Flume).

v2oconnect — *Kathmandu, Nepal*
SOFTWARE DEVELOPER — *May 2016 – Apr 2018*
- Developed the web application for a digital volunteer management system using Python/Django, PostgreSQL, and MaterializeCSS.

Skills

Computer languages	Python, C/C++, SQL, Bash, Matlab, Scala, LaTeX, eBPF
Machine learning libraries	AutoGluon, MXNet, PyTorch, Keras, TensorFlow*, NumPy, OpenCV, Scikit-learn
Data science tools	Apache Spark, Pandas, SageMaker, Excel, Google BigQuery, Google Analytics
Cloud services	AWS, Google Cloud, DigitalOcean
Web & database	HTML, CSS, SQL, MongoDB*

Trainings & Certifications

Convolutional Neural Networks ✓, Coursera		*Jul 2018*
Neural Networks & Deep Learning ✓, Coursera		*Apr 2018*
Machine Learning ✓, Coursera		*Mar 2018*
Database Management Essentials ✓, Coursera		*Jan 2018*