Shikshya Shiwakoti

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Summary

Graduate student in Artificial Intelligence with a 4.0 GPA, passionate about machine learning and committed to developing ethical, transparent, and human-centered AI systems.

Education

Worcester Polytechnic Institute   *Jan 2025 – Dec 2026*
MS in Artificial Intelligence

- GPA: 4.0/4.0 Spring 2025 (Transcript here ↗)
- **Coursework:** Responsible Artificial Intelligence, Introduction to Artificial Intelligence, Knowledge Discovery And Data Mining

Thapathali Campus, Tribhuvan University, Nepal   *Nov 2018 – Apr 2023*
Bachelors in Computer Engineering

- Cumulative Percentage: 77.58% (Transcript here ↗)
- **Honors:** Three-time semester topper and overall program topper of the 2018 Computer Engineering cohort.

Projects Experience

Adversarial Attack via Knowledge Distillation   *Jan 2025 - May 2025*
Supervisor: Prof. Raha Moraffah

- Trained a student model via multi-teacher knowledge distillation to generate transferable adversarial examples, achieving 95% PGD success with $6\times$ faster generation than ensemble baselines on CIFAR-10, to improve black-box attack efficiency
- **Tools Used:** Python 3.8+, PyTorch, NumPy, torchvision, tqdm, Captum (for Grad-CAM)
- **Paper:** here ↗

Nepali Text to Speech Synthesis   *July 2022 - May 2023*
Supervisor: Suramya Sharma

- Developed Nepali Text-to-Speech (TTS) system by adapting pre-trained English Tacotron2 and WaveGlow models, achieving 3.09 average MOS, leading to improvement in pronunciation accuracy compared to baseline systems under low-resource conditions.
- **Tools Used:** PyTorch
- **Paper:** here ↗

Industry Experience

Data Engineer   *Lalitpur, Nepal*
Cedar Gate Technologies   *July 2023 – Dec 2024*

- Onboarded healthcare datasets from multiple U.S.-based clients, ensuring data integrity and consistency across ingestion pipelines.
- Helped unify disparate data sources into a centralized, enriched data lake powering analytics and reporting.
- Contributed to the scalable ETL integration framework at Cedar Gate Technologies, a U.S.-based healthcare analytics company with operations in Nepal.

Fellowship Experience

Aspire Teaching Fellow   *Worcester, MA*
Worcester/Central MA ASPIRE Regional Collaborative   *Feb 2025 – April 2025*

- Collaborated with Professor Prof. Charulata Trivedi at Quinsigamond Community College to co-design

inclusive, student-centered learning strategies.

- ○ Delivered a guest lecture and facilitated a classroom discussion focused on active engagement.
- ○ Incorporated mentor feedback to iteratively improve teaching effectiveness and student participation.

Publications

Teach Me to Trick: Exploring Adversarial Transferability via Knowledge Distillation　　　　July 2025

Siddhartha Pradhan, ***Shikshya Shiwakoti***, Neha Bathuri

arXiv preprint, arXiv:2507.21992, July 2025. ↗

Nepali Text-to-Speech Synthesis Using Tacotron2 and WaveGlow　　　　Sep 2024

Shikshya Shiwakoti, Ashma Rai, Swostika Basukala

https://doi.org/10.3126/kjse.v8i1.69276 ↗