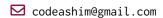
## Ashim Dahal.



**G** Scholar

Github

in Linked In

ashimdahal.github.io

## **Employment History**

2023 - Pres

- **Research Assistant,** University of Southern Mississippi, MS, USA.
  - Led multiple projects on Computer Vision on Stable Diffusion, Vision Transformer, Visual Question Answering, Convolitional Kolmorogov Networks and so on.
  - Optimized ML models on 6-gpu multinode HPC cluster, reducing training time by 65%

2022 - 2023

- Machine Learning Consultant, Data Research Council for Students, Kathmandu, Nepal.
  - Designed and delivered ML bootcamps to 200+ students with 92% positive feedback rate
  - Developed 6 Computer Vision tools and endpoints used in 4 hackathons resulting in best local project (Number 1) position in NASA Space Apps 2022

2022 - 2022

- **Research and Development Intern**, Robotics Association of Nepal, Lalitpur, Nepal.
  - Developed 2D vision system achieving 94% object detection accuracy in robotic applications
  - Created the robotics curriculum adopted by 4 high schools, reaching 900+ students

### **Education**

2023 - 2027

**B.Sc. in Computer and Information Science, University of Southern Mississippi** CGPA: 3.94; Major GPA: 4.0; Involvements: Research, Google Developers Student Club

## **Research Publications**

#### Articles (arxiv indicates under review)

- A. Dahal, S. A. Murad, and N. Rahimi, "Efficiency bottlenecks of convolutional kolmogorov-arnold networks: A comprehensive scrutiny with imagenet, alexnet, lenet and tabular classification," arXiv e-prints, 2025. arXiv: 2501.15757 [cs.CV]. URL.
- S. A. Murad, **A. Dahal**, and N. Rahimi, "Multi-lingual cyber threat detection in tweets/x using ml, dl, and llm: A comparative analysis," *arXiv e-prints*, 2025. arXiv: 2502.04346 [cs.CL]. **OURL**.
- A. Dahal, S. A. Murad, and N. Rahimi, "Heuristical Comparison of Vision Transformers Against Convolutional Neural Networks for Semantic Segmentation on Remote Sensing Imagery," arXiv e-prints, Nov. 2024. URL.

### **Conference Proceedings**

- A. Dahal, P. Bajgai, and N. Rahimi, "Analysis of zero day attack detection using mlp and xai," in *Proceedings of International Conference on Security and Management (Springer Nature) in press*, Las Vegas, USA, 2024. OURL.
- A. Dahal, "Would you own a robot?" In Proceedings of the Ninth National Conference on Science and Technology by NAST, Lalitpur, Nepal, 2022. OURL.

#### **Preprint Articles**

- A. Dahal and S. Kattel, "Predicting handwritten devanagari characters using modified-lenet model architecture," Preprint: 400+ reads, oct 2022. **©** URL.
- 2 A. Dahal, "Do you "go big or go home" with neural networks?" Preprint: 200+ reads, 2022. 🔗 URL.
- A. Dahal, A. Khadka, B. Kharal, and A. Shah, "Effectiveness of native language for conversational bots," Preprint: 500+ reads, 2022. **OURL**.

# **Creative Projects**

Thislexic An Extended Reality (XR) app that helps dyslexic patients to practice writing using llama cpp

Torchy A PyTorch wrapper that adds functional usage of .train(), validate and other utilities from tensor-flow's pipeline to nn.Module (15 \*\*) and 5 forks)

Jelly A chat-bot that replies to and from Romanized Nepali designed to help mental health patients; a first of its kind (9 \*\* stars and 7 forks)

Frida A climate change super app that summarizes climate change news, predicts landslides based on weather data, hosts events and gives flood alerts based on current location of rivers

## Miscellaneous Experience

## **Community Offices**

2025-Pres Research Liaison, School of CSCE Ambassadors, USM

2024-Pres Head of Artificial Intelligence, Google Developer Students Club at USM

2022-2023 Founder and President, Together We Learn

2021-2022 | IT Head, The English Society

## **Teaching in Bootcamps**

2023 To Days Pokhara Machine Learning Bootcamp - 7

7 Days Bootcamp on Pragati School - 🗘

■ DRCFS Chitwan Bootcamp – •

📕 14 Days Intermediate Python Bootcamp – 🕥

2022 📕 30 Days Beginner Python Bootcamp – 🞧

#### **Awards and Achievements**

**\$500 checkpoint**, Awarded by school of business to develop XR application

\$200 Eagles Write Award, Best Visual Analysis School of Humanities, USM

2023-2024 President's List X 2, Awarded for Excellent Performance in Academics

2022 | Global Nominee, NASA Space Apps Challenge & Project Site

#### **Invited Talks**

2025 What is an Image?, USM, Hattiesburg, MS, USA. **OURL** 

2023 Using AI in journalism, Federation of Nepali Journalist, Kaski, Nepal. 🔗 URL

Future of AI, Fishtail Academy, Pokhara, Nepal. **OURL** 

#### Certification

Generative Adversarial Networks Specialization. Awarded by DeepLearning, AI

■ Deep Learning and Reinforcement Learning. Awarded by IBM

**Sequence Models**. Awarded by DeepLearning.AI

2020 Machine Learning. Awarded by Stanford Online

■ Introduction to Data Science. Awarded by University of Michigan

Neural Networks and Deep Learning. Awarded by DeepLearning.AI

## Skills

Languages Python, C++, C#, sql

Databases Mysql, Postgresql, sqlite

ML PyTorch, Open cv, Hugging Face, Accelerate, FastAPI, MatplotLib, Scikit-Learn, Pandas

# **Skills (continued)**

Tools



☐ Git, Linux, NVIM, High Performance Computing Clusters (HPCC), 對EX

# References

# Dr. Nick Rahimi

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