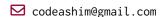
Ashim Dahal.



G Scholar

Github

in Linked In

ashimdahal.github.io

Employment History

2023 - Pres

- **Research Assistant,** University of Southern Mississippi, MS, USA.
 - Spearheaded Computer Vision projects on Vision Transformers, Video Question Answering and Dynamic Gaussian Splatting leading to 4+ publications
 - Optimized ML models on 6-gpu multinode HPC cluster, reducing training time by 65%
 - Helped 3 research groups to accomplish their research on Brain Computer Interface and Cybersecurity with AI resulting in 3 publications

2022 - 2023

- Machine Learning Researcher, Data Research Council for Students, Kathmandu, Nepal.
 - Designed and delivered 5 bootcamps on python and Machine Learning to 350+ students with 92% positive feedback rate (full list)
 - Developed 6 Computer Vision tools and endpoints used in 4 hackathons resulting in best local project in NASA Space Apps 2022 (link)

Education

2023 - 2027

■ B.Sc. in Computer Science, University of Southern Mississippi CGPA: 3.92; Keystone Honors Scholar with Academic Excellence Scholarship

Selected Publications

Full list (11+ articles): Google Scholar

Journal Articles

A. Dahal, S. Akbar Murad, and N. Rahimi, "Heuristical comparison of vision transformers against convolutional neural networks for semantic segmentation on remote sensing imagery," *IEEE Sensors Journal*, vol. 25, no. 10, pp. 17 364–17 373, 2025. **OURL** (Impact Factor: 4.5).

Conference Proceedings

- A. Dahal, S. A. Murad, and N. Rahimi, "Embedding shift dissection on clip: Effects of augmentations on vlm's representation learning," in *Proceedings of the Computer Vision and Pattern Recognition (CVPR)* Conference Workshops, Jun. 2025, pp. 4814–4818. URL.
- A. Dahal, P. Bajgai, and N. Rahimi, "Analysis of zero day attack detection using mlp and xai," in Security and Management and Wireless Networks, Springer Nature Switzerland, 2025, pp. 57–67, ISBN: 978-3-031-86637-1. URL.

Notable Experience

Awards and Achievements

\$5,500 Summer Research Grant, Drapeau Center for Undergraduate Research

\$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

Community Offices

2025-Pres Lead Organizer, Google Developers Group (GDG) On Campus

Research Liaison, School of CSCE Student Ambassadors, USM

2024-2025 Head of Artificial Intelligence, Google Developer Students Club at USM

Notable Experience (continued)

Invited Talks

2025 What is an Image?, USM, Hattiesburg, MS, USA. • URL

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

Future of AI, Fishtail Academy, Pokhara, Nepal. 🔗 URL

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 utilities from tensorflow'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) **O

Skills

Languages Python, C++, C#, sql

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

CompVis Vision Transformers, Vision Language Models, Dynamic Gaussian Splatting, Multimodal Systems, Stable Diffusion, Neural Radiance Fields, Video Question Answering, Convolutional Kolmogorov Arnold Networks, Image Segmentation

Tools Linux, Git, NVIM, High Performance Computing Clusters (HPCC), Lagrange Tools