Ashim Dahal

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EDUCATION

Bachelor's in Computer and Information Science   Aug 2023 – present | Hattiesburg, USA
University of Southern Mississippi
  CGPA: 4.0

TECHNICAL SKILLS

Languages: Python, C++, SQL, Javascript, HTML, CSS, PHP

Frameworks: PyTorch, Tensorflow, Keras, Open CV, Flask, FAST API, Matplotlib, Pandas, Numpy, Scikit-learn, JQuery

Technologies: Git, Github, PostgreSQL, REST, Linux, Machine Learning, Deep Learning, Prompt Engineering, NVIM, High Performance Clusters and Supercomputers

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant   Sep 2023 – present | Hattiesburg, United States
University of Southern Mississippi
  • Leading a team of 3 undergraduate students to detect previously unknown zero-day cyber attacks
  • Handled heavily imbalanced dataset with 4.8 million entries with 2 anomaly samples using newly fabricated approaches
  • Timely submitted team reports and updates while also guiding the team members on navigating resources
  • Collaborating with graduate students (PhD) on research on 3-D computer vision (AI in AR and VR) and ML in neurology

Machine Learning Consultant   Jul 2022 – Jul 2023 | Kathmandu, Nepal
Data Research Council for Students 🔗
  • Packaged and installed over 10 Machine Learning microservices as internal tools for 3 different startups
  • Taught in over 4 different bootcamps empowering 450+ high school, undergraduate and graduate level students with the fundamental concepts of python, machine learning and deep learning
  • Traveled to different parts of the country taking on 10+ mini events on promoting data literacy to over 1000 students
  • Scraped data to map landslides occurrence with weather conditions to detect landslides using deep learning with 99.9 percent accuracy for the first time in Nepal 🔗

Research and Development Intern   Jul 2022 – Nov 2022 | Lalitpur, Nepal
Robotics Association of Nepal 🔗
  • Worked on field tasks to teach the fundamentals of robotics and programming to 900+ students in 3 different schools
  • Led in office tasks to create ML models with over 95% accuracy for projects like **Digital Voting System, Rotten Vegetable Scanner Robotic Arm and Face Recognition Attendance System**
  • Designed and developed Devanagari OCR CNNs with over 97% accuracy and preprinted paper with **340+ reads | paper** 🔗

ACADEMIC SERVICE

ACM Transactions on Knowledge and Discovery from Data (TKDD)   Feb 2024 | United States
Reviewer
  Review papers submitted to the journal; accept, decline or provide feedback on improvement of the manuscript.

Together We Learn   Jan 2022 – Aug 2023 | Kathmandu, Nepal
Founding President
  • Researched the human computer interaction and social aspect of adaptation of robots with over 300+ survey respondents **presented in NAST Conference (600+ reads) | paper** 🔗
  • Founded the close group of over 200 board and general members, managing over 30 technical newsletters on python alongside hosting10+ mega events like outreach programs, bootcamps and interviews impacting over 1000 students
  • Empowered and influenced 100+ tech enthusiasts and tech creators reaching to over 14 thousand organic audience per post

PAPERS

[1] **Ashim Dahal** "Would you own a ROBOT? : A detailed research on public response to the nooks and crannies of owning a robot", 27 June 2021, **(presented in the Ninth National Conference of Science and Technology by Nepal Academy of Science and Technology).** 🔗

[2] **Ashim Dahal**, Sushan Kattel "Predicting Handwritten Devanagari Characters using modified-Lenet Model Architecture" in Research Square, 11 Oct 2022, (**Citation :1 in an IEEE paper).** 🔗

[3] **Ashim Dahal**, Prabin Bajgai, Dr. Nick Rahimi "Evolving KDD99: Pioneering Zero-Day Attack Detection Through Modulated Deep Learning Approaches", 2024.

[4] **Ashim Dahal**, Bishal Kharal, Anuj Khadka and Aashish Shah "Effectiveness of Native Language for Conversational Bots" in Research Square, 24 October 2022. ⧉

[5] **Ashim Dahal** "Do you "Go big or go home" with Neural Networks?" in Research Square, 3 June 2022. ⧉

PROJECTS

Jelly | github ⧉
Flask | Python | Hugging Face | BlenderBot | Javascript
- Developed and deployed Nepal's first romanized Nepali chatbot with over 500 weekly users (when active)
- Conducted research on Human Computer Interaction with native language and published paper with **500+ reads | paper** ⧉

torchy | github ⧉
Python | PyTorch
- Reimagined PyTorch with a wrapper that has fit , _accuracy, validate, etc. increasing development speed by over 15%
- Increased the core functionality of torch with helper modules and published the project on pipy with **15 stars on github** ⧉

Jov.ai | github and demo ⧉
mini gauGAN | Pytorch | Python |
- Built an AI powered image generator images with FID score of 5 and IS of 8 that generated images of Jupiter like JunoCam
- Effectively showcased the project resulting in our team being a **Global Nominee at NASA Space Apps Challenge 2022** ⧉

Frida | github ⧉
Pandas | PyTorch | Matplotlib | FAST API | SQL | BS4 | NLTK
- Scraped latest climate change related news from google news and deployed an API to summarize them with NLP
- Curated an early flood warning system by analyzing water levels at different rivers and channel points in Nepal

COMPETENCY DEVELOPMENT

- Generative Adversarial Netowrks (GANs) Specialization by DeepLearning.AI ⧉
- Deep Learning and Reinforcement Learning by IBM ⧉
- Machine Learning by Stanford Online ⧉
- Neural Networks and Deep Learning by DeepLearning.AI ⧉
- Sequence Models by DeepLearning.AI ⧉
- Introduction to Data Science in Python by University of Michigan ⧉