Prasanga Dhungel

Personal Information

Phone:	+977 9860356669
email:	dhungel611@gmail.com
linkedin	linkedin.com/in/prasangadhungel
github	github.com/prasangadhungel
Website	prasangadhungel.com.np
Place and Date of Birth:	Bhaktapur Nepal | June 4 1999
Research Imperatives:	Interpretable Machine Learning, Statistical Inference, Medical Imaging, Algorithm Optimization, Low-resource NLP, Big Data Systems

Education

Nov 2016 – Apr 2021
Bachelor's Degree In Computer Engineering
Institute of Engineering, Pulchowk Campus, TU, Nepal
Major Coursework: Theory of Computation, Data Structure and Algorithms, Operating System, Artificial Intelligence, Computer Organization and Architecture, Discrete Structure, Calculus, Data Mining, Probability and Statistics, Big Data
Grade: 79.57% in aggregate

Jun 2014 – Aug 2016
High School Education
Capital Higher Secondary School, Nepal
Major Coursework: Physics, Chemistry, Mathematics, Computer Programming
Grade: 87.2% in aggregate

Publications

Dec 2020
Dhungel, Prasanga, et al. "An Efficient Video Compression Network." 2020 2nd International Conference on Advances in Computing, Communication Control and Networking (ICACCCN). IEEE, 2020

Work Experience

Mar 2022 – Ongoing
Data Scientist, Naamche Inc
- I have been working on exploring and analyzing large scale real-estate data. With the application of machine learning, I have been developing algorithms to assess the investment potential of real estate. I have also been involved in deploying such models with CI/CD pipelines.
- **Reference**: Mr. Saramsha Dotel, saramsha@naamche.com

Apr 2021 – Mar 2022
NLP Research & Development, Diyo.ai
- I worked on open domain and enterprise chatbots that could respond to queries in both English and Nepali. I also contributed to numerous Nepali NLP components such as Transliteration, Named Entity Recognition, Language detection. For image-based queries, I also implemented object retrieval based on object detection and recognition.
- **Reference**: Dr. Bishesh Khanal, bishesh.khanal@diyo.ai

Nov 2020 – Feb 2021
Computer Vision Research Intern, NAAMII
- I worked on COVID-19 Lung CT Lesion Segmentation (3D) using CNN architectures like U-Net, DeepLabV3. I also participated in MICCAI endorsed competition on Lung Lesion Segmentation.
- **Reference**: Dr. Bishesh Khanal, bishesh.khanal@naamii.org.np

Jan 2020 – Jun 2020
Data Science Intern, LIS Nepal
- worked on assortment recommendations using online sentiments. I also explored and analyzed market trends using large-scale retail data.
- **Reference**: LIS human resource department, hrd@lisnepal.com.np

Achievements and Awards

Jul 2016	Represented Nepal in the 47th International Physics Olympiad, Zurich, Switzerland
Nov 2018	Represented Nepal in ACM-ICPC, Dhaka regionals
May 2020	Winner: A Day of Code
Feb 2019	Winner: Locus Codejam
Jan 2018	Winner: National Level Programming Contest
Sep 2020	Second Place: DandyHacks organized by the University of Rochester via Devpost
Jan 2018	Second Place: Kathmandu University Coding Tournament

Projects and Research

Nov 2019 – Oct 2020 **Video Compression Net**, the undergraduate final year project

- It is a Deep Learning based video compression system that minimizes the number of bits required to encode video frames while also reducing distortion. The major objective of the project was to replace the conventional components in the pipeline of video compression with their neural network equivalents. The trained model equaled the compression ratio of the conventional system.
- I was involved in designing the architecture of CNN, combining the components, devising loss functions, and training the network end-to-end.

Jun 2021 – Oct 2021 **Covid-19 Emergency Chatbot**

- A Viber bot, with more than 1100 subscribers, that caters to Covid-related queries in Nepali and English. With the addition of custom-made components like transliteration and NER, the chatbot was created using Rasa framework.

Jun 2019 – Sep 2019 **Population Simulation and Its Applications on Disease Spread**

- A social-interaction simulation and modeling to visualize, analyze and predict the spread of disease. The simulation was carried out for Lalitpur district using the data from Central Bureau of Statistics, Nepal.

Nov 2020 – Feb 2021 **Lung Lesion Segmentation**

- A CNN based model that operates on CT images(3D) and segments detect severity of lung lesions caused by SARS-CoV-2 infection. The project was carried out as a part of MICCAI endorsed competition on Lung Lesion Segmentation

Sep 2020 – Oct 2020 **Drow-Z**, Second Place in DandyHacks

- Drow-Z is a sleepiness detection and alarm system for drivers that relies on computer vision. It uses the driver's eye aspect ratio, head's inclination, and relative motion to detect drowsiness.

Skills

Programming	Python, C++, C, R, Java, Javascript, MATLAB, Latex
AI & ML	PyTorch, TensorFlow, Numpy, Scipy, Matplotlib, Scikit, Pandas, PyMC, Dash, OpenCV
Database	PostgreSQL, MySQL, ElasticSearch, MongoDB, PostGIS, SQLAlchemy, Alembic
Web	Django, Flask, FastAPI, JS / CSS / HTML, Vuejs
Server Tech	Docker, AWS, Nginx, Apache, Azure

Involvements

Dec 2021	Participated in the third Nepal winter school of AI as a teaching assistant in NLP.
Jun 2019	Organized Locus Codejam
Jun 2019	Completed Deep Learning Specialization by Andrew Ng (Coursera)
Jan 2019	Participated in Hult prize 2019
Dec 2018	Organized and acted as a tutor on a competitive programming workshop

Language Proficiency

TOEFL	109 (29R / 29L / 23S / 28W)