Curriculum Vitae

Aayush Basnet

Contact Information

- Email: aayushbasnet2002@gmail.com

- GitHub: https://github.com/AayushBasnet22

- Mobile: +977-9842797591

Educational Qualifications

- **Bachelor's Degree in Computer Engineering** (2021 – 2025(expected))
  Advanced College of Engineering and Management, Balkhu, Kathmandu (Tribhuvan University)

Projects Completed

- **Pneumonia Detection System using ResNet-18 and Interpretable AI**

  - Led the overall project development in a group of four.
  - Achieved overall accuracy of 77.79% with Precision of 74.15% and Recall of 76.15%.
  - Highlighted affected areas in Chest X-ray through heat map generation using Class Activation Mapping.
  - Developed project using PyTorch, Sklearn library.

- **MNIST Digit recognition using Back Propagation Algorithm**

  - Implemented Back Propagation Algorithm using NumPy.
  - Achieved accuracy of 75%.

- **Face recognition using PCA and SVD**

  - Implemented Principal Component Analysis and Singular Value Decomposition on Olivetti Faces Dataset.
  - Decomposed and analyzed the image using different matrix factorization techniques.

- **Exploratory Data Analysis on Iris Dataset**

  - Visualized, analyzed, and correlated the attributes using heatmap, box, and scatter plot.
  - Plotted the dataset distribution and identified the data distribution type.

- **Pathfinder using greedy algorithm**

  - Calculated shortest distance between two cities of Nepal provided by the user.
  - Implemented Djikstra algorithm using C++.

Coursework and Training

- One week Python and machine learning course organized by LOCUS at IOE, Pulchowk.

- Two weeks machine learning crash course at Advanced College of Engineering and Management.

- Studied Probability and Statistics, Numerical Methods, Data Mining, Data Structure and Algorithm.

- Linear Algebra, Probability, and Statistics for Machine and Deep Learning projects.

Technical Expertise

- Programming languages: Python, C++, C

- Framework and tools: PyTorch, Sci-kit, Sci-Py, Pandas, NumPy, Matplotlib, Seaborn, SQL, Git

- Tools for creating quality scientific reports, thesis, and presentations: excellent skills in Microsoft Word, Microsoft PowerPoint, LaTeX

Achievements

- Received *Semester Scholarship Program* from IOE, Pulchowk.

- Received full scholarship for High School at Brihaspati Vidyasadan.

- *Best Graduating Student* 2020 at Brihaspati Vidyasadan.

- Active member of Project Association of Computer and Electronics (PACE) at Advanced College of Engineering and Management (2022–2023).

Hobbies and Interests

- Book Reading, Recreational Mathematics, Programming, Travelling, Swimming, Volunteering