Manoj Dhakal

md5121@nyu.edu +971547395439 | mdhakal.com.np | github | linkedin

Education

New York University Abu Dhabi

Bachelor, Philosophy; Bachelor, Computer Science

Expected Graduation Date: May 2026 Abu Dhabi, UAE

C*GPA: 3.957* Experience

Research Intern May 2024 - Aug 2024

Laboratory for Computer Human Intelligence

Abu Dhabi, UAE

- Collaborated with Dr. Tuka Alhanai on research exploring GPT-40 for estimating logistic regression parameters in binary prediction tasks. Understood the relationships between estimated parameters of regression with textual data. Drafted paper under review.
- Analyzed 162 datasets, developed six prompting styles, and achieved an average AUROC of 0.63 using 10-fold cross-validation.
- Built an experiment pipeline with API integration for seamless result tracking in Google Sheets.

Global Career Peer Aug 2023 - Dec 2023

Career Development Center, NYUAD

Abu Dhabi, UAE

- Scraped and analyzed career data from public resumes, structuring insights using Google Sheets, pivot tables, and VLOOKUP.
- Collected and processed student career details to support data-driven decision-making and analytics.
- Assisted in organizing the university's career fair, coordinating logistics and employer engagement.

Research Intern

Aug 2023 - Jan 2024

Laboratory for Computer Human Intelligence

Abu Dhabi, UAE

- Gathered raw EMG(Electromyography) data from around 100 websites, compiled them in google sheet, and uploaded each of the dataset to the High Performance Computing(HPC), a medium size Linux Cluster at Center for Research Computing NYUAD.
- Converted all the various file formats(.mat, .sav, .dat, etc) into .csv using Python code and bash scripts as a part of data preprocessing to make a unified database and facilitate Machine Learning Research

Facilitator, Artificial General Intelligence Safety Fundamentals Reading Group

Jan 2023 - Present

Effective Altruism NYUAD

Abu Dhabi, NYUAD

- Facilitated reading group sessions based on the BlueDot Impact syllabus, covering topics such as Outer Alignment, Inner Alignment, Agents Foundation, and Interpretability.
- Organized and led weekly 8-week cohorts, each consisting of around 6 members, ensuring engaging and productive discussions.
- Coordinated logistics for the sessions, including scheduling, communication, and providing necessary materials, enhancing the group's learning experience.

Skills

Programming Languages: Python(Numpy, Pandas), C/C++, JavaScript, Java, HTML5/CSS3
Frameworks and Libraries: ReactJS, Flask, FastAPI, Pytorch, Tensorflow, Sklearn, OpenCV
Table 8 Patch associations: Git. Back, LIDC, Manage RB, Firehassociations: Git. Back, LIDC, Manage RB, Git. Back, LIDC, B

Tools & Databases: Linux, Git, Bash, HPC, MongoDB, Firebase

Projects

meta4ic - a metaphor annotation system | Github | (Aug 2024 - Dec 2024)

- Developed a machine learning-based metaphor annotation system, achieving **90.14**% accuracy with Logistic Regression and **89.38**% accuracy with MaxEnt using the VU Amsterdam Metaphor Corpus (VUMAC).
- Implemented data balancing techniques, improving AUROC scores from 0.72 to 0.84 for MaxEnt and from 0.77 to 0.83 for Logistic Regression, significantly enhancing **model interpretability** and metaphor detection.
- Designed an end-to-end NLP pipeline, automating four key processing steps (data parsing, balancing, training, evaluation), improving efficiency in metaphor annotation for computational linguistics research.

assignMeant (pre-seed) - Ed-tech platform for personalized assignments | Github | (May 2024 - Aug 2024)

- Prototyped full-stack ed-tech platform using Flask that automatically generates personalized student assignments faster using LLM
- Engineered database schema on MongoDB and integrated Llama-3-8B with efficient prompt engineering for generating questions and answer key
- Designed a real-time teacher dashboard with an automated grading system achieving 95% accuracy in assessment key

philosloppy - philosopher LLM for Socratic dialogue | <u>Github</u> | Selenium, BeautifulSoup, *HuggingFace*, *Unsloth*, *Ollama* (2024)

- Created **Python** data pipeline to collect, process 100,000+ philosophical discussions and texts, improving training data quality by 60%
- Fine-tuned Llama-3-8b model for Socratic-style dialogues using **Pytorch**, achieving an 85% coherence score in human evaluation
- Incorporated Unsloth to streamline pipeline efficiency and deployed optimized model using Ollama

Miscellaneous:

- **butterAI**: An AI powered speech therapy prototype targeted for people with stuttering; finalist for Nokia's AI for Good Hackathon (2025) | Github
- KhojYantra: Search Engine for the Nepali legal text, Tokenization and Similarity Search | Github
- **Explainium:** A chrome extension that simplifies complex text (word, phrase, sentences) into ELI5/Pro explanations | Github

Activities

Content Creation: Youtube | Epistemic Spaghetti | Pijack Mathman

Aug 2024 - Present

- Produced and managed Pijack Mathman, creating animated explanatory math videos leveraging Manim, the library developed by 3Blue1Brown.
- Produced and managed **Epistemic Spaghetti**, creating videos that delve into explanatory **philosophical videos**.