

ANKIT UPADHYAY

4 25th Street, Troy, New York 12180

☎ 518-866-6481 ✉ Email 🔗 LinkedIn 🐙 Github 🏠 Personal Website

EDUCATION

Rensselaer Polytechnic Institute

Aug. 2023 – July 2028

PhD in Computer Science, Semester 1 GPA: 4.0/4.0

Troy, NY

Visvesvaraya Technological University

Aug. 2019 – July 2023

B.E. in Computer Science and Engineering, GPA: 9.39/10

Bengaluru, India

EXPERIENCE

Rensselaer Polytechnic Institute

Aug. 2023 – Present

Graduate Research Assistant

Troy, NY

- Working on the application of AI for conservation for NSF AI Institute ICICLE, under Prof. Dr Charles V Stewart.
- Applying novel algorithms for animal re-identification on images captured by drones and camera traps.
- Analyzing the code to adapt it for application on several backbone architectures for performance comparison.

Visvesvaraya Technological University

Aug 2022 – June 2023

Undergraduate thesis research

Bengaluru, India

- Improved the original XNLI dataset by re-translating the MNLI dataset in all of the 14 different languages present in XNLI, including the test and dev sets using Google Translate and examined its impact on the performance of XLM-R on cross-lingual natural language inference (NLI) task.
- Explored the feasibility of using high-resource languages other than English as the source language for NLI models and assess their pros and cons, especially for performing tasks in low-resource languages such as Swahili and Urdu.
- Analysed the suitable high-resource language for performing inference tasks on Indian low-resource languages that are included in the newly compiled XNLI 3.0 dataset.
- Awarded Rs. 4000 grant by the Karnataka State Council for Science and Technology(KSCST) for the thesis titled, "CROSS LINGUAL TRANSFER LEARNING FOR NATURAL LANGUAGE UNDERSTANDING" under the Student Project Programme.

Neuromatch Academy

10 July 2022 – 29 July 2022

Deep Learning Summer School

Online

- Developed a language model to classify argumentative elements in grade 6-12 student writing as "effective," "adequate," or "ineffective". Delivered a presentation communicating the outcomes of the research.

India International Science Festival

Oct. 2021 – Nov. 2021

Solution Designer

Goa, India

- Ideated and presented an ed-tech solution: e-Ankuram, under the Engineering Students category, to ensure achieving the target of the fourth Sustainable goal: Quality Education. Secured a spot in the top 5 among a total of 20 teams

PUBLICATION

XNLI 2.0: Improving XNLI dataset and performance on Cross Lingual Understanding (XLU) 2023

IEEE 2023 8th International Conference for Convergence in Technology (I2CT)

Troy, NY

- Improved the original XNLI dataset by re-translating the MNLI dataset in all of the 14 different languages present in XNLI, including the test and dev sets using Google Translate.
- Perform experiments by training models in all 15 languages and analyzing their performance on the task of natural language inference.
- Investigated the possibility of improving performance on NLI in low-resource languages such as Swahili and Urdu by using high-resource languages other than English.

PROJECTS

WildfireWatch: A human-centered AI solution to Wildfire Detection | Course Project

Fall 2023

- Trained YOLOv8n model using Tesla T4 on publicly available D-Fire dataset to detect and classify fire and smoke instances in images by tuning hyperparameters.
- Performed a random augmentation from a specified set of augmentations on each training image and then trained YOLOv8n on this dataset having double the training set size.
- Achieved same accuracy with YOLOv8n model on just 50 epochs as compared to a baseline work done with YOLOv5s for 100 epochs.
- Achieved a slightly better performance on fire class with model trained on augmented training set.

- Analyzed the difference in performance on smoke and fire class. More experiments being performed on better compute for larger epoch size to see the novel results.
- Deployed user-friendly web application on Hugging Face for everyone to use.

Fake News Classifier | *Fatima Fellowship*

2022

- Trained a fake news classifier on a pretrained BERT model with an accuracy of 96% as a coding challenge for the Fatima Fellowship.
- Researched several possible reasons for misclassification of the news and identified ways to make it better by data cleaning and eliminating bias.

U.S. Patent Phrase to Phrase Matching | *Kaggle Research Competition*

2022

- Applied model ensemble technique on two DeBERTa and one RoBERTa model on a novel semantic similarity dataset to extract relevant information by matching key phrases in patent documents.
- Solution was in Top 36%.

TECHNICAL SKILLS

Languages: Python, C, PyTorch, Hugging Face Transformers, Neural Networks

Developer Tools: VS Code, Eclipse, Google Colab, Github

Interpersonal Skills: Leadership, Teamwork, Communication

AWARDS AND ACHIEVEMENT

Best Outgoing Undergraduate Student 2023: Awarded among an undergraduate class of 210 for significant academic and extra-curricular achievement.

Silver Medal in International Youth Math Challenge 2022: Top 15% out of 5500 participants.

Clinton Global Initiative University 2022: selected among a cohort of 400 students globally.

Global Citizen Year Academy 2022: full scholarship, among 260 students globally.

IEEE Student Member: Awarded by College for high-achieving students.

Fatima Fellowship - Finalist: Ranked among top 70 out of 700 candidates

Intercollegiate Hackathon (Hackwell 2.0), organized by Honeywell: Top 5 among 20 teams.

LEADERSHIP / EXTRACURRICULAR

Computer Science Graduate Council Representative at RPI, 2023

Lead Application reviewer for the inaugural class of Climatesmatch Academy 2023

Student Body President (Class of 2023)

Director of Communications and Outreach for Neuromatch Conference 2022

Hugging Face Student Ambassador 2022

Official Ambassador from India for International Youth Math Challenge 2022