Neel Bhandari

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EDUCATION

Carnegie Mellon University   Pittsburgh, PA
Master of Science in Intelligent Information Systems   *Dec. 2025*

R.V. College of Engineering   Bangalore, India
B.Tech in Computer Science and Engineering, GPA: 8.63/10   *Sept. 2022*

PUBLICATIONS

- Ahmet Üstün, Viraat Aryabumi, ... , **Neel Bhandari** et. al. Aya Model: An Instruction Finetuned Open-Access Multilingual Language Model - **Best Paper at ACL 2024.**

- **Neel Bhandari**, Pin-Yu Chen. Lost In Translation: Generating Adversarial Examples Robust to Round-Trip Translation (Full Paper), *ICASSP 2023.*

- **Neel Bhandari**, Pin-Yu Chen. Lost In Translation: Generating Adversarial Examples Robust to Round-Trip Translation, *Workshop on Socially Responsible Machine Learning, ICLR,2022.*

- Sankalp Gilda, **Neel Bhandari**, Wendy Mak, Andrea Pannazi. Robust Calibration For Improved Weather Prediction Under Distributional Shift, *Bayesian Deep Learning Workshop, NeurIPS 2021.*

RESEARCH PROJECTS

Member of Core Research Team   January 2023 - April 2024
Aya Open Science Project, Cohere For AI Community   *Remote*

- Led experiments on quality estimation and pruning of multilingual datasets to understand the impact of data quality on model performance.
- Spearheaded the development of the data processing pipeline for diverse multilingual datasets, reducing the caching time from several days down to hours.
- Won the Best Paper Award at ACL 2024

External Research Student   June 2021 - March 2022
MIT-IBM Watson AI Lab   *Remote*

- Collaborated with Dr. Pin-Yu Chen on studying the robustness of text-based adversarial attacks from a multilingual lens.

Research Intern   August 2020 – June 2021
Indian Space Research Organisation   *Bangalore,KA*

- Led the development of an end-to-end, high-accuracy pipeline for unsupervised semantic segmentation of multi-spectral satellite images aimed at identifying illegal encroachment into protected areas in Bangalore.
- Developed a scalable Conditional Generative Adversarial Network (GAN), significantly lowering the satellite data acquisition and processing cost for ISRO.

WORK EXPERIENCE

Machine Learning Scientist   Aug 2022- July 2024
PayPal Inc.   *Bangalore,India*

- Spearheaded the research and development behind the first automated Root Cause Identification tool at PayPal, which promised to reduce root cause analysis time by over 75%.
- Developed, trained and tested language models on proprietary data along with use-case specific metrics for the first LLM-based PayPal Assistant chatbot.

Machine Learning Intern   April 2022 - July 2022
PayPal Inc.   *Bangalore,India*

- Developed a proof-of-concept Root Cause Identification tool focused on the automated extraction of problem statements and root causes from unstructured chat transcripts.

Summer Schools

- **Mediterranean Machine Learning Summer School 2023**: Received a fully funded travel and accommodation scholarship for being one of the Top 10 selected applicants out of 800 applications. I was also selected to present a poster at the school.

- **Oxford ML Summer School 2023**: Selected for the highly competitive OxML Summer School. Attended the online version of the school.

Projects

Interpretable Question Answering for Privacy Policies. | *Python,Tensorflow,Streamlit*   Feb. − May 2021
- Developed a Question Answering system for Privacy Policies using Deep Learning.
- Integrating optionality for analysing output through interpretability methods including saliency maps and perturbation analysis

Analysing the Impact of Covid-19 on Food Security | *Python, Tensorflow*   June 2020 − Aug. 2020
- Declared Winners out of 4000 teams and 10,000 students at IBM Hack Challenge 2020, one of India's largest hackathons.
- Analysed and Predicted the Food Security situation for India and the U.S. using Multivariate Regression and Time Series Analysis.
- Used K-Means clustering to identify and comprehensively review vulnerable populations and display the required details on an interactive, dynamic dashboard.

News Media Bias Detection System | *Python, PostgreSQL, MongoDB, Flask*   Oct. 2020 − Nov. 2020
- Developed a fine-tuned BERT model for multi-classification of political bias on news articles, resulting in an F1 score of 0.972.
- Provided secondary features such as summarising articles, article metadata, and subjectivity and polarity of the article.
- Integrating NoSQL and SQL for storage of training data as well as resulting metadata for dynamic presentation on our user-friendly UI.

Honors and Awards

- Received a fully-funded scholarship to attend the Mediterranean Machine Learning Summer School 2023

  - Top 10 applicants out of 800 applications to the summer school.

- Winner of the IBM Hack Challenge 2020, consisting of 4000 teams and 10,000 participants.
- Winner of the National Law School Debate (Indian National Debate Championship), Bangalore.

  - Touted to be India's largest institutional debate tournament..

- Champion of the Middle East and Asia Phase of the BDIDF Global Debating Championship.

  - Felicitated by the President of Bangladesh for this accomplishment..

Team and Volunteer Experience

Organizer, Cohere For A.I.   Remote
Organizing the Interactive Reading Group at Cohere For AI   *July 2022 - June 2024*

Member and Vice President, R.V. Debating Society   Karnataka, India
Coach students on several topics such as parliamentary debating, economics, and politics.   *July 2018 - August 2022*

Fundraising Executive at S.P.A.R.K   Karnataka, India
Organized a fundraising campaign for Rs. 2 million for orphanages affected by the pandemic   *Jan 2020 - March 2021*

Curriculum Content Developer at Gyanada   Karnataka, India
Developed an introduction to programming curriculum for underprivileged children   *March 2021 - April 2021*