Vipul Maheshwari

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EDUCATION

LNMIIT   Jaipur, India
Bachelor of Tech in Communication and Computer Engineering   *Aug. 2019 – May 2023*

PUBLICATIONS

1. Neuroinformatics Deep Learning Synthezier based on Impulse Control Disorder Using LSTM Cells
Vipul Maheshwari*, Akshat Soni*, Dr. Abhishek Sharma, ICICV'22 [url] Best Paper Award

EXPERIENCE

Machine Learning Engineer   Oct. 2023 – Current
Endeavor Labs   *New York City Metropolitan Area · Remote*
- Successfully created NLP pipelines and refined models, precisely tailored to the distinctive needs of a diverse clientele, consistently achieving recall scores surpassing the 85 percent threshold.
- Currently integrating sophisticated approaches like teacher forcing and parallel inference pipelines, alongside other SOTA modelling procedures, to elevate predictive accuracy and model performance.

NLP Deep Learning Intern   Feb 2023 – Oct 2023
Saarthi.ai   *Bengaluru, India*
- Refactored **Pytorch** based multilingual **Named entity recognition (NER)** codebase to expand intent classification and entity extraction coverage across 10 languages using ITN library
- Resolved NER and **Natural language understanding (NLU)** model inconsistencies through extensive regex, rule-based patterns, and lexical analysis enabling higher precision and reducing API latency by 20%
- Collaborated with in-house linguists on creating a better NER pipeline for doing the advanced prepossessing of multilingual utterances
- Developed in-house interactive **NLP** demos and deployed production-ready NER models with REST APIs
- Built an automated pipeline to ingest and merge the multilingual data with over 22k+ utterances of 10 languages

Computer Vision Deep Learning Intern   Jan. 2023 – March 2023
aiensured   *Bengaluru, India*
- Extracted over 50,000 frames from 100 hours of video data using Python scripts. Pre-processed frames by resizing, removing the blurred images and finally normalizing them for **object localization.**
- Performed model optimization via refactoring the Python scripts for normalizing the input images to improve processing speed and memory usage while maintaining accuracy.
- Built small object detection models with **YOLO** and **Pytorch** to detect drowsiness in Exam Software.

Neuroscience Deep Learing Research Assistant   Dec 2021 – Oct 2022
LNMIIT   *Jaipur, India*
- Developed a **Long Short-Term Memory (LSTM)** cell by extracting feature sequences from fmri brain images and feed them into a trained LSTM/BiLSTM model to obtain semantic labels to predict the early symptoms of Impulse Control Disorders (ICD)
- **First-author publication**: "*Neuroinformatics deep learning synthesizer based on Impulse Control Disorder using LSTM cells*" recognized with **Best Paper Award** at the 3rd International Conference on Innovations in Computational Intelligence and Computer Vision (ICICV 2022, Springer Nature).

PROJECTS

LSTM POS Tagger | *Python, Tensorflow, LSTM* ○   Jan 2023
- Developed a part-of-speech tagger, using **BI-directional LSTM Neural Network**. Attained remarkable model performance upto 96.1% with 128 BI-directional LSTM units stacked together.

Google Draw Classifier | *Python, Pytorch, CNN* ○   Dec 2022
- Developed a **CNN** classifier for 10-class doodle categorization. Optimized hyperparameters, elevating accuracy to 85% via a strategic learning rate of 0.001. Attained a peak accuracy of 86.11% with a batch size of 64

HONORS AND AWARDS

1. Facilitated by the **Government Of India (Department of Science & Technology (DST)** with the (INSPIRE) award for an exceptional record in STEM subjects.
2. Won a **Gold medal** in the state-level debate competition held during the Social Science Exhibition cum National Integration Camp at Kendriya Vidyalaya No.1 Pratapnagar, Udaipur. Led debate team of Udaipur zone at Regionals.
3. **Founded** Renevant Cheetah, a multimedia writing platform that has reached in **36+ countries** and counting.