ADITYA KUMAR

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Education

Indian Institute of Technology (BHU), Varanasi	**July 2019 – Present**
Integrated Bachelor and Master of Technology in Ceramic Sciences	*Overall GPA : 8.05/10*
Shivam International School, Patna, Bihar	**2019**
Class XII : Central Board of Secondary Education(CBSE)	*Percentage : 88%*
Sainik School Sujanpur Tira, Hamirpur, HP	**2017**
Class X : Central Board of Secondary Education(CBSE)	*CGPA : 10/10*

Technical Skills/Interests

Key Competencies : *Natural Language Processing, Deep Learning*
Languages : *Python, C*
Tools and Libraries : *PyTorch, Linux Shell, Git, OpenCV, Keras, Tensorflow, BeautifulSoup*
Areas Of Interest : *Natural Language Inference, Generative Modelling, Data Science*

Projects

Automated Headline and Sentiment Generation | *mBERT, TF-IDF, PyTorch*   **March 2021**
- Processed **Multi-lingual Code-Mixed** tweets & articles for Natural Language Inference & Generation Tasks
- Built a Binary Classifier with **89% F1 score** to identify tweets/articles belonging to Mobile-Tech theme
- Built an **Aspect Based Sentiment Analysis** model to extract sentiments associated with each individual brand

Automatic License Plate Recognition System | code | *openCV, CNN, YOLOv5, Keras*   **April 2021**
- Built complete pipeline to extract vehicle registration numbers from **unconstrained** real-world images
- Robust to **rotation**, **thickness**, **reflections** & **shadows**
- Noise removal, Histogram equalization and **Perspective transform** to account for irregularities in image
- Used **YOLOv5** for license plate detection, contours based character segmentation and **CNN** model for classification

Google Quest Challenge | code | *Transformers, Subword Tokenizer, PyTorch*   **Feb. 2021**
- Built model to **predict** ratings for **subjective aspects** (like #question_asker_intent_understanding) of question answering on StackExchange Q&A pairs
- Used MLP witjh **BERT-Embeddings**, tried different schedulers and differential learning rates.

Simultaneous Multitasking Agent | code | *RL, Autoencoders, Stable Baselines, PyTorch*   **Dec. 2020**
- Conducted a sweep of experiments and explored the use of **Deep Reinforcement Learning** for simultaneous activity by robots in a group of four as part of Robotics Research Group (RoboReG) IIT BHU
- **Open sourced** the openai gym environment built with **PyBullet** simulator

Technical Experience

Shot Sports Analytics	**Sep. 2020 – Nov. 2020**
Data Analyst Intern	*Remote*

- Performed web scraping on dynamic websites using bs4 and automated process using selenium
- Wrote python scripts for Data Wrangling and pipelines

Achievements / Extracurricular

- Secured **Silver Medal** in Bridgei2i's Automated Headline and Sentiment Generation **NLP** event among 23 IITs at **Inter IIT Tech Meet'21**.

- **5th place** among 60 teams in **Mosaic**, computer vision event in **Udyam, IIT BHU**.

- **3rd** position in the campus round at the social entrepreneurship event organized by **HULT Prize Foundation** on the theme 'Food for Good'.

- Among **Top 4** teams in Asia-Europe Inter College **consulting presentation** competition at **ShARE** I-Batch Presentations on the topic 'Can e-Learning help speed up education revolution in developing countries?'