MEITH HITESH NAVLAKHA

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EDUCATION

University of California Los Angeles (UCLA), Los Angeles, CA   **September 2023 – June 2025**
Master of Science in Computer Science   **(CGPA: 3.85/4.0)**
Relevant Courses: Natural Language Generation, Advanced Data Mining, Deep Generative AI

Dwarkadas J. Sanghvi College of Engineering, Mumbai, India   **August 2019 – May 2023**
Bachelor of Technology in Computer Engineering with Distinction   **(CGPA: 3.9/4.0)**
Relevant Courses: NLP, Computer Vision, Data Warehouse & Mining, Big Data Infrastructure, Web Intelligence

RESEARCH INTERESTS

LLMs, Natural Language Generation, Vision & Linguistics (multi-modal), Search and Recommendation

PROFESSIONAL EXPERIENCE

IIT Patna   **April 2022 – May 2023**
NLP Research Intern   *Remote*
- Developed our **novel multi-task model** with **6 ablation variants**, comprising a shared layer (SciBERT, Toxic-BERT, BERT-Base, with Bi-LSTM connected to parallel attention blocks) that branches out to Task Specific Layers to determine the aspect categories and their sentiments for any given review
- Measured the **informativeness score** using parameters like paper's section coverage and aspects (Hedge score, POS features, Sentiment, top keyword count) in the review
- Collated constructive nature (5 levels) of a peer-review and it's politeness tones and examined the **inter-layer dependency** between the two aspects based on the results obtained from the validation dataset

Sukkhi Fashion Jewellery   **January 2022 - April 2022**
Data Science Intern   *Mumbai*
- Built a **multi-modal model** using **EfficientNet, CLIP**, and **GPT2** for keyword extraction & Jewelry Identification that enhanced textual and image based search on the website
- Engineered software based on **Apriori Algorithm** to recommend combo offers during festive sales, increasing **cross-sales** and **customer retention** by 13% and 21%, respectively
- Wrote **15+ scripts** and **ELT pipeline** to automate the data entries and integrated APIs, which in turn reflected in the company's **Analytics Dashboard** in real-time, speeding up quantitative analysis to address business growth and sales

RESEARCH AND PROJECTS

PolitePEER: does peer review hurt? A dataset to gauge politeness intensity in the peer reviews   **|LREC-2023 [IF 3.67]**
- Published an annotated dataset (**2.5k annotated & 60k raw peer-reviews**), with the **annotation guidelines**, scraped from OpenReview and Publons, , encompassing 5 levels of politeness and benchmarked results with the baseline models
- Implemented **RPoliteness library** for feature extraction and politeness score predictor that helped in assessing crucial insight

KnowStress: A Mobile Application Prototype for Detection of Stress and Stress Related Disorders   **| Scopus and WoS**
- Curated our **dataset (950+ responses)** on Indian living standards targeting age 18-30 years abiding the **HIPAA Privacy rule**
- Proposed a Stress Screener model for our **Generalized Stress Test (GST),** trained on Indian stress standards, with an accuracy of 89% to diagnose patient's stress score and likelihood of any stress-related disorders(PTSD, ADHD, Bipolar, and GAD)

Anuvaad - A Hybrid Machine Translation Approach   **|NLP, GNMT, LLM, Spacy, POS tags and Dependency Tree**
- Engineered a **NER** model that outperformed Spacy(CoNLL & UNER benchmarks), particularly for **compound proper nouns**, and integrated it with our translation module to address phrases requiring transliteration rather than direct translation
- Resolved **Google Translate's mistranslations** from English to Hindi (a grammatical gender language) by capturing appropriate gender cues from the Gender-Specific words in the given text and correcting Gender-Sensitive words in Hindi

Relax Melodies - Sleep Monitoring and Analytics Platform   **|React, Native, Django, Web Sockets, QR Code, ChartJS**
- Launched an application to monitor a patient's sleeping patterns and predict the **REM Sleep Score** using **KPIs** like sleep duration, snoring intensity, frequency of awakening, and restlessness (movement distribution charts) captured via webcam
- Engineered pipeline to streamline the client's incoming snapshots, pre-process (Image Brightening & Colorization) snapshots, extract features (**MobileNet**), update the associated indicators and reflect it on the dashboard

Effects of Fusion Techniques on Multi-Modal Dataset   **|Python, Keras, FER, HuggingFace, Scikit-Learn, Transformers**
- Investigated the effects of **3 fusion techniques** viz, decision-level, feature-level, and hybrid on **Facial Expression Recognition** models over multi-modal datasets (video, text, and audio) for **emotion detection**
- Experimented with ensembles of **EK-GCN**(uses external knowledge sentiment lexicons and POS) **HateBERT,**, **Vader, XLSR-emotion**(Speech Emotion Detection), and **EmoReact**, **HSEmotion**, for feature extraction and emotion classification

RELEVANT TECHNICAL SKILLS

- **Languages: Python, SQL, R**, Java, C, C++, JavaScript, PHP
- **Libraries & Databases:** PyTorch, TensorFlow, NLTK, **Scikit-Learn**, **Pandas**, **Numpy**
- **Tools & Platforms:** Git, AWS, **Tableau**, Adobe Express, **Power BI**, **BeautifulSoup**, **Selenium**, Hadoop, Excel, Latex