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KONDRAGUNTA MURALI MANOHAR

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EMPLOYMENT

Data Scientist — **Gramener** — **Jun 2019 - Present**

NLP Division, AI Labs — **Jun 2019 - Present**

- Had setup Text Platform - NLP Division in AI Labs, which currently serves :

- Smart Contract Analysis Tool to identify critical clauses and key entities in legal documents.
- Financial Journey Step Identification to map customer complaints to different journey steps.
- Polarity app to classify the live comments from VoC (Voice of Customers).

AI Labs — **Jun 2019 – Present**

- EmoBGM - An emotion classifier to identify the emotion of a scene using BGM.
- As a part of Microsoft's AI for Earth initiative, I collaborated with:

- SEEDS NGO in India to map the floods using Satellite Imagery (*Ongoing*).
- Researchers from UMass & Cornell to migrate their project on bird migration from MATLAB to PyTorch.

Research Intern — **LTRC, IIIT Hyderabad** — **Dec 2018 - May 2019**

- Worked on *Robust Initialization and Fine-tuning Methods for Unsupervised NMT*.
- Supervisor: Dr. Manish Shrivastava

Summer Research Intern — **LTRC, IIIT Hyderabad** — **May 2018 - July 2018**

- Worked on *Shallow Parser in a Low Resource Setting*, accepted in CICLing 2019.
- Supervisor: Prof. Dipti Misra Sharma

Developer Intern — **Geek Online Ventures Pvt. Ltd** — **May 2017 - July 2017**

- Built a Desktop Application to extract details of the employee such as Desktop screenshots, actual working hours, files uploaded and a web application for the Project Manager(Or equivalent) to view the data.
- Contributed to the foundations of the Chatbot Development Team by creating a prototype.

RESEARCH

Unsupervised NMT — **Dr. Manish Shrivastava & Prof. Sudip** — **Dec 2018 - May 2019**

- Hypothesized and showed that an additional step of Lexical substitution using Cross-lingual embeddings can converge the models faster.
- Proved that fine-tuning NMT models trained in Unsupervised Setting perform better and complement the learning from under-resourced settings.

Determining Relevance in VQA — **Prof. Sudip Sanyal** — **Aug 2018 - Dec 2018**

- Experimented whether the inclusion of Visual Concepts, Natural Questions generated from the image and premises from text impart auxiliary information to the existing Visual Question Answering systems.

Under Resource Shallow Parser — **Prof. Dipti Misra Sharma** — **May 2018 - July 2018**

- We have tried the feasibility of Transfer learning, Multi-Task learning using Pre-Trained Neural(LSTM Networks) Language Model in NLP and worked on various approaches for improving sequence labeling task and achieved encouraging accuracies.

Data Engineering & WSD — **Dr. Satyendr Singh** — **Jan 2017- Mar 2018**

- Created Sense Annotated Corpus for Indian Languages, which involved cleaning and parsing raw corpora to build datasets for the native language speakers to annotate.
- Did an empirical analysis of how morphological variants, POS Tags, stemming, stopwords and syntactico-semantic relations (karaka relations) would affect the objective of WSD.

Education

Gurgaon, India **BML Munjal University** **2015-2019**

- Bachelor of Technology in Computer Science & Engineering. CGPA: [9.28 / 10]
- Undergraduate Coursework: Data Structures; Algorithms; Operating Systems; Databases; Information Retrieval; Comp. Architecture; Discrete Mathematics; Machine Learning;

Projects

Text Platform **Aug 2019 - Nov 2019**

- Smart Contract Analysis Tool to identify critical clauses and key entities in legal documents. Implemented using a pipeline of LSTMs, SpaCy and Topic Modelling.
- Financial Journey Step Identification to map customer complaints to different journey steps like Opening, Fraud, Closing, etc. Used Transfer Learning to tackle smaller datasets.
- Polarity app to classify the live comments from VoC (Voice of Customers). Leveraged NVIDIA's unsupervised neuron model for polarity recognition.

EmoBGM **June 2019 – Aug 2019**

- Collaborated with a media network to find what ensemble of emotions lead to a hit episode using BGM.
- Extracted BGM from vocals and generated spectrograms to train a CNN model for BGM identification.

Accident detection **Aug 2018 – Sept 2018**

- KIKI Challenge - Dancing along with a moving car resulted in many accidents.
- Built a Deep Learning model to detect the probability of an accident, where frames of the video are convoluted with VGG16 and processed sequentially using an LSTM.
- In order to increase the efficacy of the model, additional information is concatenated to each frame in the form of YOLO's object detection.

Animation of Knapsack Algo **Oct 2017 – Nov 2017**

- An initiative to animate the working of algorithms for better teaching & understanding in classes.
- Built an application that dynamically takes in a list and visualizes each step of the algorithm. Used HTML/CSS, JS & jQuery.

Hand Bot **Jan 2016 – Apr 2016**

- A bot that replicates human writing, which can be integrated into bionic arms.
- Parts are 3D printed & Arduino is used to control 3 servos and an RTC (Real Time Clock chip).

Languages and Technologies

- Python, Javascript, Java, HTML/CSS, jQuery, C++
- PyTorch, Keras, Numpy, Pandas, Scikit-learn, Flask.
- Git, Docker
- Azure, AWS, GCE

Notable Mentions

3rd place NLP Hackathon [Reference] Alibaba Hackathon - 2018

Promising Star Award Gramener - 2019