Lalchand Pandia
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Research Projects	**Examining robustness of entity information processing in pre-trained Language Models**
	Advised by Dr Allyson Ettinger

- In this project, we are trying to understand how well pre-trained LM models perform when it comes to processing, retaining and applying information in text.
- We introduce a dataset where each data instance two sentence. The first sentence contain entity and the profession associated with the entity. The second sentence has cloze-style statement which can be filled correctly if the models retain information about the profession.
- We have tried several pre-trained models and found that these models degrade in performance once we introduce contextual manipulations.
- We have submitted a paper(under review) at NAACL-HLT 2021.

Encoder based Attention Mechanism for Word Sense Disambiguation
Advised by Dr Harish Karnick

- In this paper we presented the idea of transfer learning using a pre-trained BERT model to fine-tune a model for Word Sense Disambiguation.
- Used a weighted loss function to handle extreme imbalance of senses in datasets.
- Achieved state-of-the-art results on hard, line, serve, and interest datasets.

Word Sense Disambiguation by learning Long Term Dependencies
M.Tech Thesis [Supervised by Dr Harish Karnick]   *Jan 2016 - Jun 2017*

- We applied bi-directional LSTM to use sequence information to disambiguate senses of a polysemous word.
- Achieved better macro F1 scores than state-of-the-art on several datasets like hard and serve.
- We tried the same approach on selected words from One million sense tagged corpus and achieved encouraging results.

Industry experience	**Huawei Technologies India Pvt. Ltd**
	System Architect, *Dec 2018- present*

- Designed the logical replication module which will be used in FileSystem to allow data replication between different FileSystem and Amazon S3.
- Coding of distributed manager for replication of data between Huawei distributed NAS storage clusters particularly focusing on functionality and performance of I/O path.

IQLECT Software Solutions Pvt. Ltd
Data Scientist,   *Aug 2018- Nov 2018*
Designed and implemented session based recommendation system using Gated Recurrent Unit for e-commerce apps.

NetApp India Pvt. Ltd
Member of Technical Staff II,   *July 2017- July 2018*
Focused on backup of data from NetApp storage servers to backup devices such as tape using NDMP.

Tata Consultancy Services Pvt. Ltd
System Engineer,   *Dec 2012- June 2015*

Worked on Java client-server applications dealing with insurance policies.

Teaching Experience	**Teaching Assistant**

Department of Computer Science, Indian Institute of Technology Kanpur

- Multiagent Systems: Games, Algorithms, Evolution (CS 785)   Spring 2017
- Design and Analysis of Algorithms (CS 602A)   Fall 2016

Achievements and Awards

- Ranked in top 0.3% (amongst 1,15,425 candidates) in Graduate Aptitude Test in Engineering(GATE), 2015, Computer Science.
- Secured 2nd rank in Computer Science and Engineering Department in Bachelor of Technology, 2012.

Education

Indian Institute of Technology Kanpur
M.Tech. Computer Science and Engineering (CSE)
2015-2017   GPA: 8.33/10.00
Kalasalingam University, Krishnankoil
B.Tech.(Honours) Computer Science and Engineering (CSE)
2008-2012   GPA: 9.27/10.00

Skills

- **Programming Languages**: C, C++, Java, Python
- **ML frameworks and softwares**: PyTorch, numpy, scikit-learn, pandas