# Hritvik Gupta

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## EDUCATION

**Geetanjali Institute Of Technical Studies.**
B.Tech. IN COMPUTER SCIENCE
*Udaipur, India | Expected May 2022*

## COMPUTER SKILLS

• MS OFFICE • SQL • HTML5
• System administration• WordPress
• Windows • LINUX/UNIX

## TECHNICAL SKILLS

• Python • Tensorflow • C • C++
• Pytorch • Keras • Matlab•Git Data structures • AWS

## INTERPERSONAL SKILLS

• Analytical Thinking• Problem Solving • Technical Writing •Public speaking • Team Leading

## CERTIFICATION COURSES

**Coursera:-**

- Convolutional Neural Networks in TensorFlow
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
- Project: Custom Prediction Routine on Google AI Platform
- Python data structures
- Programming for Everybody (Getting Started with Python)

**Linkedin :-**

- Advance Your Skills in Deep Learning and Neural Networks
- Building a Recommendation System with Python Machine Learning & AI
- Building Deep Learning Applications with Keras 2.0

**Udemy:-**

- Complete machine learning: from zero to mastery

## Field of Interest

- Natural Language Processing
- Cognitive science
- Applied computational science
- EEG
- Deep Neural Networks
- Statistical and Mathematical Computation of Machine Learning
- Feature Engineering

## PROFILE SUMMARY

Research enthusiastic with more than two year of experience in Natural language processing and a year of working in Electroencephalogram (EEG) signal analysis. Extensively published in computing and AI journals. I specifically work upon customized deep neural layers and optimization functions of neural layers. Also a confident speaker at conferences and has the ability to teach coursework and complex research to all kinds of people.

## EXPERIENCE

**Indian Institute Of Technology,Roorkee**
|RESEARCH INTERN
**|March 2021 - October 2021| Roorkee**

- Developing customized models using Keras to classify the EEG signals by reaction time, go/no-go and passive tasks and Analyzing the EEG signals from young and old adults based on the rest and auditory cued reaction time tasks.
- Applying several Signal Pre-processing techniques like ICA, Signal-Space Projections and Source Estimation for removing the unwanted ECG and EOG artifacts, and PCA for dimensionality reduction.

## Academics

**Bachelors of Technology Computer science Engg.**
**|Geetanjali Institute of Technical Studies, Udaipur, RJ**
***|8.83 CGPA*** ***July 2018 - July 2022***

**Higher Secondary School**
**|CBSE- Delhi Public School, Udaipur, RJ**
***|85.55 %*** ***July 2017- July 2018***

## PROJECTS

### Comprehensive Analysis of the Classification of Cognitive Load Of EEG Mental Load Signals

***|In Press Research Publication|March 2021 - present***

- The motive of this research is to classify between rest-active signals and the active part of the brain bearing a considerable high load on arithmetic tasks.
- Analyzing the EEG signals from young and old adults based on the rest and arithmetic cued response time tasks
- Entropy, Time Domain and Frequency Domain Feature analysis.
- Ablation study using neural networks .
- Outcome Frontal Lobe is most active alongside parietal lobe.

### Multi Linguistic Text Generator

***|Final Year Project |september 2021 - present***

- The aim of Multi linguistic text generators is similar to that of the Google text generator and we worked upon deep neural improvement
- Trained on less data but running on various algorithm to recast the encoder-decoder neural networks
- Outcome supposed to be Adaptive neural networks to Multi-linguistic text embedding.

### Unsupervised Text Summarizer Using LSA and Sentence based topic modeling with BERT.

***|Research Paper IEEE Publication,Summer Internship Project| july 2020-oct 2020***

- The scope of this research project which is based on Natural language processing to Summarize the long textual document to reduce database storage size and retain only relevant information
- Used LSA topic modeling along with TFIDF keyword extractor for each sentence in a text document
- Used BERT for text embeddings. Coalesce all embedding to be fed to neural architecture.
- Observed considerable decrease in size of data and increased in accuracy of the trained model as compared to that of previously published

## Hobbies

- Cycling and Hiking
- Reading Novels
- Weight Lifting
- Volleyball

## Links

- **Github**:https://github.com/hritvikgupta
- **LinkedIn**: https://linkedin.com/in/hritvik-gupta-8469611a3
- **Google scholar**: https://scholar.google.com/citations?user=ShxBp2MAAAAJ&hl=en

**Hybrid Text Summarization Using Elmo Embedding.**
*|Research Paper IEEE Publication,Winter Project| Nov 2020- Feb 2021*

- This research project aims to build the algorithm to analyse unsupervised embedding when incorporate with supervised approach of ranking sentences
- Text summarizer is built combining ELmo based text embedding which is unsupervised to the supervised approach of cosine similarity to build an efficient text summarizer.
- Outcome is a considerable increase in ROUGE-1 and ROUGE-L score is observed as compared to that of the previously published results on similar dataset.

**Image Captioning**
*|Minor Project | June 2021*

- This is one of the projects that I have built during the first 2 months of my internship at IIT while learning mathematical computation of keras neural networks. This includes creating an Image array using Res-Net model then building its own Custom Keras Lstm model for generating captions.

## PUBLICATIONS

- H. Gupta and M. Patel, "Method Of Text Summarization Using Lsa And Sentence Based Topic Modelling With Bert," *2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS)*, 2021, pp. 511-517, doi: 10.1109/ICAIS50930.2021.9395976.

- H. Gupta and M. Patel, "Study of Extractive Text Summarizer Using The Elmo Embedding," *2020 Fourth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)*, 2020, pp. 829-834, doi: 10.1109/I-SMAC49090.2020.924361

### In Peer Publications

- Analysing of EEG Signals Using RNN Classification
  ***|IEEE Scopus Journal |*** *November 25-27 2021*

- Comprehensive Analysis of the Classification of Cognitive Load Of EEG Mental Load Signals
  ***|MDPI MOCAST |*** *January 15 -16 2022*

## CONFERENCE PRESENTATIONS

- 3rd International conference on innovations in power and advanced computing technologies I-PACT
  ***| November*** *25-27 2021*

- International Conference on Artificial Intelligence and Smart Systems (ICAIS)
  ***|*** *March 26-27 2021*

- 4th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)
  *|November 25-27 2020*

## LEADERSHIP AND VOLUNTEER EXPERIENCE

- **Home Town Free Food Service**
  *|August 2020 - Present*

  A part-time worker in an NGO which aims to provide free food to the Poor and necessities people in times of covid crisis. My job is to locate these people in places like bus stations, railway stations and certain sub-rural places.

- **Student Technical Club**
  *|September 2019 - Present*

  Leader of the AI and AR/VR team in the technical club of Geetanjali institutes computer science which aims to enhance the technical skills of students in all fields and each respective field has a team and a team leader which specializes in that field.

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