

# SWYAM PRAKASH SINGH

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## EDUCATION

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**Indian Institute of Science, Bangalore**  
Masters in Technology (Computer Science)  
Department of Computer Science and Automation

*August 2018 – July 2020*

**Harcourt Butler Technical University, Kanpur**  
Bachelors in Engineering, (Electronics)

*July 2013 – June 2017*  
Overall Percentage: 71.88%

## EXPERIENCE

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**Aug 10, 2020 - present**

Software Engineer 2, Citrix R & D, Bangalore Urban

## PROJECTS

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- **Graph Neural Networks for Text Classification**

*Advisor: Prof. Shirish Shevade*

This was a course project and was inspired from the work on *TextGCN* by Yao *et al.* (2019). The aim was to use *graph attention in networks* to classify text documents.

- **Framework for Set Matching and Bipartite Hypergraph**

*Advisors: Prof. M. Narasimha Murty and Prof. V. Shusheela Devi*

We are given a bipartite hypergraph and we aim at capturing relations between node pairs from the left and right hyperedges. This problem can be also addressed as set matching problem (currently under submission).

- **Aggregating Graph Embeddings**

*Advisor: Prof. M. Narasimha Murty*

This was a project in the summer term, which aim to increase F1-scores for node classification tasks by aggregating embeddings from different mechanisms such as *DeepWalk*, *node2vec*, *LINE*, *SDNE*, *etc.* The motive was to exploit the fact that different representation mechanisms capture different characteristics of a graph; so combining them might work better.

- **Cascading Graph Representation Learning with Unsupervised Deep Embedding Clustering**

*Advisor: Prof. Ambedkar Dukkhipati*

This too, was a course project for Machine Learning. The main aim was to analyse the difference between results on node classification and link prediction obtained by two different methods *node2vec* and *GCN*. The representation obtain by *GCN* was further used with *Unsupervised Deep Embedding Clustering*.

- **Refining Graph Representations by Edge-Removal**

*Advisor: Prof. M. Narasimha Murty*

This was a summer project, whose task was to refine graph embeddings by removing some edges such as those between high-degree nodes to improve node classification performances.

## MINI PROJECTS

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- **Text Classification using CNNs with Tri-gram based word2vec**

*Advisor: Prof. Shirish Shevade*

- **Apparel Identification System using CNNs**

*Advisor: Prof. M. Narasimha Murty*

- **Multi-Layer Neural Network Implementation from Scratch**

*Advisor: Prof M. Narasimha Murty*

## TECHNICAL STRENGTHS

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<b>Languages/Libraries</b>	C, C++, Python, NumPy, Scikit-Learn, PyTorch, Tensorflow
<b>Software &amp; Tools</b>	MS Office, L <sup>A</sup> T <sub>E</sub> X

## COURSES

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|----------------------------------|----------------------------------|
| • Machine Learning               | • Design & Analysis of Algorithm |
| • Practical Data Science         | • Deep Learning for NLP          |
| • Topics in Pattern Recognition  | • Data Analytics                 |
| • Linear Algebra and Probability |                                  |

## INTERESTS AND ACTIVITIES

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|-------------------------------|--|
| • Machine Learning enthusiast | • Playing Table Tennis, Badminton, Cricket |
| • Programming                 | • Active in the Gymnasium                  |
| • Reading motivational books  |  |

## ACHIEVEMENTS

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- **GATE 2018**

Secured All India Rank 6 in GATE (CS/IT) 2018

- **TECH-ERA**

Head of technical team at TECH-ERA 2016 (technical fest, Electronics Dept., HBTI Kanpur)

- **Robowars, Mecharnival, HBTI**

Stood first in *Robowars* in MECHARNIVAL 2014 (technical fest, Mechanical Dept., HBTI Kanpur)

## EXTRA-CURRICULAR

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- Volunteered for CSA OPEN DAY 2019, Dept. of CSA, IISc Bangalore
- Member of the organising team, CSA Summer School 2019, Dept. of CSA, IISc Bangalore
- Member of EntIISc (an entrepreneur club in IISc Bangalore)