# CHANDRAHAS

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NBH-611, IISc Hostels
Indian Institute of Science, Bangalore, India

## EDUCATION

**PhD, Computer Science & Engineering** *July 2015 - Present*
Indian Institute of Science, Bangalore
Interpretable Representation Learning for Knowledge Graphs and Text

**Master of Engineering, Computer Science & Engineering** *August 2011 - July 2013*
Indian Institute of Science, Bangalore
Specialization : Machine Learning
CGPA: 6.7/8.0

**Bachelor of Engineering, Computer Science & Engineering** *August 2007 - June 2011*
Bhilai Institute of Technology, Durg [C.G.]
Marks: 80.6%

## PUBLICATIONS

**Towards Understanding the Geometry of Knowledge Graph Embeddings** July 2018

Authors: Chandrahas, Aditya Sharma, Partha Pratim Talukdar
Conference: Association for Computational Linguists (ACL) 2018

**Inducing Interpretability in Knowledge Graph Embeddings** Dec 2017

Authors: Chandrahas, Tathagata Sengupta, Cibi Pragadeesh, Partha Pratim Talukdar
Preprint: arXiv:1712.03547

**Revisiting Simple Neural Networks for Learning Representations of Knowledge Graphs** Nov 2017

Authors: Srinivas Ravishankar, Chandrahas, Partha Pratim Talukdar
Conference: Automated Knowledge Base Construction (AKBC) Workshop at NIPS 2017

**Learning Score Systems for Patient Mortality Prediction in Intensive Care Units via Orthogonal Matching Pursuit** Dec 2014

Authors: Aadirupa Saha, Chandrahas, Harikrishna Narasimhan, Sriram Sampath, Shivani Agarwal
Conference: International Conference on Machine Learning and Applications (ICMLA) 2014

## EXPERIENCE

**Facebook** September 2018 - November 2018
*Intern* *London, UK*

- Worked on search query recommendation.
- We came up with new methods for query recommendation which improved user engagement on search result page.

**IBM Research Lab** June 2016 - August 2016
*Research Intern* *Bangalore, India*

- Worked on Task Specific Knowledge Graph (KG) Construction methods where the final structure (nodes and edges) of KG is determined by an end task, like classification.
- We came up with a Probabilistic Graphical Model based formulation for the problem and used Collapsed Gibbs Sampling for the inference task.

**Veveo R&D, Rovi Corporation** August 2013 - July 2015
*Software Engineer* *Bangalore, India*

- Worked on conversation based search on entertainment domain.
- My work focused on finding user intents for natural language queries and finding relationships between multiple subsequent queries and context management during conversation.
- As a part-time project, I also worked on developing various tools (web-based and automation scripts) which is used by the team for quick debugging.

## PROJECTS

**Predicting mortality in Intensive Care Units** April 2012 - July 2013
*ME Thesis*

- This project aims to develop a technique for estimating the probability of patients mortality in the Indian intensive care units using various observations from patients like heart rate, blood pressure etc.
- We applied different classification techniques (specifically, linear and non-linear logistic regression) to this problem.
- We also proposed a boosting-style approach for predicting patients mortality rates, which automatically learns thresholds on features and corresponding weights, resulting in a score-based system.

**Study of Parallel Coordinate Descent Algorithms** August 2015 - December 2015

- We studied parallel versions of Coordinate Descent Algorithms and also implemented and conducted experiments with some of these algorithms.
- Specifically, we implemented following algorithms:
  - Parallel Coordinate Descent Methods for Big data Optimization by Peter Richtarik et al, 2013
  - Accelerated, Parallel and Proximal Coordinate Descent by Olivier Fercoq et al, 2013

**Entity Linking** August 2015 - December 2015

- We studied the effects of co-reference resolution (using Stanford CoreNLP) on the performance of Wikifier [`https://cogcomp.cs.illinois.edu/page/software_view/Wikifier`] system for Disambiguation to Wikipedia task.

**Null Dereference Analysis in Java Programs** September 2011 - November 2011

- We applied the abstract interpretation framework for the analysis of null dereferences in Java programs using Soot framework.

## TECHNICAL SKILLS

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| **Programming** | C, C++, Java, Python, Shell Scripting. |
| **Frameworks & Tools** | TensorFlow, PyTorch, MATLAB, Eclipse, LaTeX, Python-Flask and Jinja2. |
| **Expertise** | Machine Learning, Optimization, Natural Language Processing, Algorithms. |

## ACHIEVEMENTS AND POSITIONS OF RESPONSIBILITY

AIR-44 in GATE-2011

Honors in Bachelor of Engineering

Certificate of Excellence in Mathematics in 12th

Gave talks on Introduction to Machine Learning in CSA Summer School 2013 and Representation Learning for text in CSA Summer School 2016

Led the publicity team for department (CSA) Open-days 2013 and CSA Summer School 2013