

Chandrasahas

☎ (+91) 9945337554 | ✉ dewangan.chandrasahas@gmail.com | 🏠 chandrasahas.github.io | 📷 chandrasahas | 🌐 dewanganchandrasahas | 📧 chandrasahas

Summary

I am broadly interested in information extraction and generative large language models. My past research focused on analysing and improving KG completion methods and their application on densifying Open KGs extracted from a text corpus. I also worked on modular language models that can separate volatile world knowledge from invariant linguistic knowledge, enabling easier model adaptation with changing world facts. Currently, I am working on methods for product information extraction from noisy unstructured or semi-structured (e.g., HTML) sources.

Interests

Knowledge Graphs, Language Models, Natural Language Understanding, Machine Learning, Model Interpretability.

Work Experience

Amazon

APPLIED SCIENTIST

- Working on Product Information Extraction using generating large language models.

Bangalore, India

Oct. 2022 - Present

Google Research

VISITING RESEARCHER

- Worked on developing large language models that work well on knowledge-intensive tasks.

Bangalore, India

Sep. 2021 - Oct. 2022

Facebook

INTERN

- Worked on search query recommendation.

London, UK

Sep. 2018 - Nov. 2018

IBM Research Lab

RESEARCH INTERN

- Worked on Task Specific Knowledge Graph (KG) Construction methods where the final structure of KG is determined by an end task.

Bangalore, India

Jun. 2016 - Aug. 2016

Veveo R&D, Rovi Corporation

SOFTWARE ENGINEER

- Worked on conversation based search on entertainment domain. natural language conversation.

Bangalore, India

Aug. 2013 - Jul. 2015

Education

Indian Institute of Science, Bangalore

PH.D. COMPUTER SCIENCE AND ENGINEERING - ADVISED BY **PROF. PARTHA PRATIM TALUKDAR**

Thesis - Analysis and Methods for Knowledge Graph Embeddings

Aug. 2015 - Jul. 2021

CGPA - 7.0/8.0

Indian Institute of Science, Bangalore

M.E. COMPUTER SCIENCE AND ENGINEERING - ADVISED BY **PROF. SHIVANI AGARWAL**

Thesis - Learning Score Systems for Predicting Patient Mortality in ICUs

Aug. 2011 - Jul. 2013

CGPA - 6.7/8.0

Bhilai Institute of Science, Durg

B.E. COMPUTER SCIENCE AND ENGINEERING

Final Year Project - Expert Examination System: An automated question paper generation system

Aug. 2007 - Jun. 2011

CGPA - 8.8/10.0

Publications

- [Chandrasahas](#), Partha Pratim Talukdar. *OKGIT: Open Knowledge Graph Link Prediction with Implicit Types*, Findings of the ACL: ACL-IJCNLP 2021.
- [Chandrasahas](#), Tathagata Sengupta, Cibi Pragadeesh, Partha Pratim Talukdar. *Inducing Interpretability in Knowledge Graph Embeddings*, ICON 2020.
- [Chandrasahas](#), Nilesch Agrawal, Partha Pratim Talukdar. *Learning to Interact: An Adaptive Interaction Framework for Knowledge Graph Embeddings*, ICON 2020.
- [Chandrasahas](#), Aditya Sharma, Partha Pratim Talukdar. *Towards Understanding the Geometry of Knowledge Graph Embeddings*, ACL 2018.
- Srinivas Ravishankar, [Chandrasahas](#), Partha Pratim Talukdar. *Revisiting Simple Neural Networks for Learning Representations of Knowledge Graphs*, AKBC 2017.
- Aadirupa Saha, [Chandrasahas](#), Harikrishna Narasimhan, Sriram Sampath, Shivani Agarwal. *Learning Score Systems for Predicting Patient Mortality in ICUs via Orthogonal Matching Pursuit*, ICMLA 2014.

Talks and Tutorials

- Tutorial on **TensorFlow** at *Natural Language Understanding Course 2018* at IISc. [Link](#).
- Talk on **Representation Learning for Text** at *CSA Summer School 2016*.
- Talk on **Introduction to Machine Learning** at *CSA Summer School 2013*.

Skills

Programming Languages	Python, C, C++, Java, Shell Scripting, \LaTeX
ML/DL/NLP Frameworks	PyTorch, TensorFlow, HuggingFace, NumPy, SciPy
Web Development	HTML, CSS, JavaScript, Python-Flask, Jinja2, Bootstrap, JQuery
Applications	Vi/Vim, Visual Studio Code, Git, MongoDB
Operating Systems	Linux, Mac OSX, Windows, Android
Spoken Languages	English (fluent), Hindi (native tongue)

Positions of Responsibility

- **Reviewer** for EMNLP 2022, EMNLP 2021, NAACL 2021, AKBC 2021, EMNLP 2020, and ICON 2020.
- **Teaching Assistant** for UGE-101 (Algorithms and Programming) Course.
- **Student Volunteer** for EMNLP 2020, ACL 2018 and 2020.
- **Publicity Team Lead** for the department (CSA) Open-days 2016, 2013, and CSA Summer School 2013.

Projects

- **Study of Parallel Coordinate Descent Algorithms:** Coordinate Descent Algorithms form a class of simple optimization algorithms which has received attention of many researchers in last decade. There has been significant advancements in adapting these algorithms in parallel (multi-core) settings. In this project, we focused on studying parallel versions of Coordinate Descent Algorithms. We also implemented and conducted experiments with some of these algorithms. [\[Code\]](#).
- **Entity Linking:** Entity linking(EL) is a process of mapping textual mentions of named-entities in text to an entity in some knowledge base. EL is used in numerous areas of natural language processing to automate structured information retrieval from raw corpus. In this project, we focused on D2W (Disambiguation to Wikipedia) task, where we map textual mentions to corresponding Wikipedia pages. Specifically, we studied the effects of co-reference resolution (using Stanford CoreNLP) on the performance of Wikifier system for D2W task.
- **Null Dereference Analysis in Java Programs:** Null dereference is a common bug in programs. This project applies the abstract interpretation framework for the analysis of null dereferences in Java programs using Soot framework.
- **Expert Examination System: An automated question paper generation system:** This project automates the question paper generation process for examinations. It covers the process of creation of questions database, selection of questions for exams meeting certain criteria and generation of encrypted paper and its decryption.
- **Implementation of a Tetrahedral Mesh Viewer:** The aim of the project was to implement a basic viewer which can render tetrahedral meshes read from a file using OpenGL. It also supports rendering of individual meshes and group of meshes at different scaling levels.

Awards and Achievements

- Received **Google Travel Grant** for attending ACL 2018.
- Received **Special Recognition Award** while working at Veveo R&D.
- Secured **All-India Rank 44** in GATE-2011.
- Secured **Honors** in Bachelor of Engineering.
- Received **Certificate of Excellence in Mathematics** in Higher Secondary (12th).

Extra Curricular Activities

- *Hobbies:* Playing Guitar, Keyboard, and Drums, Board Games.
- *Sports:* Swimming, Badminton, Table Tennis.

References

1. Dr. **Partha Pratim Talukdar** (Staff Research Scientist, Google Research India), partha@google.com.
2. Dr. **Pradeep Shenoy** (Researcher, Google Research India), shenoypradeep@google.com.
3. **Ahmed Nizam Mohaideen** (Senior Software Engineer, Google India), nizamsp@google.com.
4. Dr. **Harikrishna Narasimhan** (Senior Research Scientist, Google Research Mountain View), hnnarasimhan@google.com.
5. Prof. **Shivani Agarwal** (Associate Professor, University of Pennsylvania), ashivani@seas.upenn.edu.