

# Aman Madaan

Ph.D. student at LTI, CMU

Interested in feedback-driven and interpretable language generation and reasoning

<https://madaan.github.io>

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[Google scholar](#), [Github](#)

## EDUCATION

**School of Computer Science, Carnegie Mellon University**

AUGUST 2019 - PRESENT

*M.S. & Ph.D. Language Technologies (CPA: 4.18/4.33)*

**Advisor:** Prof. Yiming Yang

**Indian Institute of Technology Bombay, Mumbai**

JULY 2013 - JULY 2015

*M.Tech. in Computer Science and Engineering (CPI: 10.0/10.0, Department Rank 1)*

**Thesis:** Numerical Relation Extraction with Minimal Supervision

**Guru Gobind Singh Indraprastha University, Delhi**

JULY 2009 - JUNE 2013

*B.Tech. in Computer Science and Engineering (Percentage : 87.4, Department Rank 1)*

**Thesis:** Distributed Compilation as a Service

## INDUSTRY EXPERIENCE

- **Google Research, Brain Team, CA** (May 2022 - August 2022)  
(Student Researcher)
- **Oracle, Redwood Shores, CA** (December 2017 - August 2019)  
(Principal Member of Technical Staff)
- **Visa, Foster City, CA** (August 2015 - December 2017)  
(Senior Decision Analytics Architect)

## SELECTED PEER-REVIEWED PUBLICATIONS

- **Aman Madaan**, Shuyan Zhou, Uri Alon, Yiming Yang, and Graham Neubig. Language models of code are few-shot commonsense learners. In *EMNLP, 2022* (To appear)
- **Aman Madaan\***, Niket Tandon\*, Peter Clark, and Yiming Yang. Memory-assisted prompt editing to improve gpt-3 after deployment. In *EMNLP, 2022* (To appear)
- **Aman Madaan**, Dheeraj Rajagopal, Niket Tandon, Yiming Yang, and Antoine Bosselut. Conditional set generation using seq2seq models. In *EMNLP, 2022* (To appear)
- **Aman Madaan** and Yiming Yang. Flowgen: Fast and slow graph generation. In *Workshop on Dynamic Neural Networks, International Conference on Machine Learning (ICML), 2022*
- Niket Tandon\*, **Aman Madaan\***, Peter Clark, and Yiming Yang. Learning to repair: Repairing model output errors after deployment using a dynamic memory of feedback. In *NAACL (Findings), 2022*
- **Aman Madaan**, Niket Tandon, Dheeraj Rajagopal, Peter Clark, Yiming Yang, and Eduard Hovy. Think about it! improving defeasible reasoning by first modeling the question scenario. In *EMNLP 2021*, pages 6291–6310, 2021
- **Aman Madaan\***, Dheeraj Rajagopal\*, Niket Tandon\*, Yiming Yang, and Eduard Hovy. Could you give me a hint ? generating inference graphs for defeasible reasoning. In *Findings of the Association for Computational Linguistics: ACL 2021*, pages 5138–5147, Online
- **Aman Madaan** and Yiming Yang. Neural language modeling for contextualized temporal graph generation. In *NAACL 2021*, pages 864–881, Online, June 2021
- Amrith Setlur\*, **Aman Madaan\***, Tanmay Parekh\*, Yiming Yang, and Alan W Black. Towards using heterogeneous relation graphs for end-to-end tts. In *2021 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*, pages 1162–1169, 2021
- **Aman Madaan\***, Amrith Setlur\*, Tanmay Parekh\*, Barnabas Poczós, Graham Neubig, Yiming Yang, Ruslan Salakhutdinov, Alan W Black, and Shrimai Prabhumoye. Politeness transfer: A tag and generate approach. In *ACL 2020*, pages 1869–1881, Online, July 2020

- **Aman Madaan**, Shruti Rijhwani, Antonios Anastasopoulos, Yiming Yang, and Graham Neubig. Practical comparable data collection for low-resource languages via images. *PML4DC Workshop, International Conference on Learning Representations (ICLR)*, 2020
- **Aman Madaan**, Ashish Mittal, Mausam, Ganesh Ramakrishnan, and Sunita Sarawagi. Numerical relation extraction with minimal supervision. In *Thirtieth AAAI Conference on Artificial Intelligence*. **AAAI**, 2016

## AWARDS & ACHIEVEMENTS

- **Research Fellowship** by Carnegie Mellon University, covers 100% tuition for the Masters' (approximately \$45,000/year) and stipend, **2019-2021**
- **Above and Beyond Award** by Visa Inc., **Awarded six times** for work done on the Customer Segmentation Platform, SpendBot, leading initiatives that led to successful demos and technical talks, and *extraordinary contributions to the business*, **Jan 2016 - October 2017**.
- **Promoted within 11 months** of starting at Visa to Senior Decision Analytics Architect (*the average time for promotion to the level is 4 years*), **September 2016**.
- **TA Excellence Award** by Dept. of C.S.E., IIT Bombay, for work done while assisting Prof. Saketha Nath in CS 725 (**Foundations of Machine Learning**), **October 2015**.
- **Ajit Shelat Award**, *Given to a deserving M. Tech. student from the EE Dept and CSE Dept combined with the highest CPI*, 53<sup>rd</sup> Convocation, IIT Bombay, **August 2015**.
- **Institute Silver Medal**, 53<sup>rd</sup> Convocation, IIT Bombay, **August 2015**.
- **Winner, AngelHack Mumbai, (out of 38 teams)**. Selected for the finals and **accepted at HACKcelerator** program with office space, mentorship and \$5000 worth of Amazon AWS credits (*declined*), **June 2014**.
- **Best Outgoing Student Award, 2013 batch** by Bharati Vidyapeeth's College of Engineering. **May 2013**.
- **TCS Best Student Award**, Presented to **100 students across India**, **April 2013**.
- **All India Rank 9** in Graduate Aptitude Test in Engineering (GATE) 2013 out of **224,160** candidates, **March 2013**.
- **Excellence in Academics Award**, Lambda Eta Chapter, IEEE-HKN, BVCOE, New Delhi, **October 2012**.
- **Winner, TCS Mobeel, (out of 247 teams)**, All India Mobile application development competition. I was the **team lead** in a team of 3, **July 2012**.

## PRE-PRINTS

- **Aman Madaan\*** and Amir Yazdanbakhsh\*. Text and patterns: For effective chain of thought, it takes two to tango. *arXiv preprint arXiv:2209.07686*, 2022

## PATENTS

- Krishnan Ramanathan, Jagan Narayanareddy, Gunaranjan Vasireddy, and **Aman Madaan**. System and method for determining an amount of virtual machines for use with extract, transform, load (etl) processes, October 22 2020. US Patent App. 16/852,509
- Krishnan Ramanathan, Jagdish Chand, and **Aman Madaan**. System and method for determination of recommendations and alerts in an analytics environment, October 22 2020. US Patent App. 16/851,872
- Krishnan Ramanathan, Gangadhar Ronaki, and **Aman Madaan**. System and method for automatic generation of extract, transform, load (etl) asserts, October 22 2020. US Patent App. 16/851,872
- Ranjan Dutta, Varun Sharma, **Aman Madaan**, Somashekhar Pammar, and Zian Huang. Database conditional field access, July 9 2019. US Patent 10,346,400
- **Aman Madaan**, Jagdish Chand, Somashekhar Pammar, Venkata Sesha Rao Polavarapu, Sunil Sharma, Tarun Jain, Dirk Reinshagen, Derek Vroom, et al. Segmentation platform, August 23 2018. US Patent App. 15/436,458

## PROFESSIONAL ACTIVITIES

- Program Committee Member (Reviewer): ACL ARR (2021 - present), ACL, EMNLP, NAACL (2020 - present), AAAI (2021 - present), EACL 2021 (**Outstanding reviewer**), AACL 2022, Neurips 2022

- Organizer, Workshop on Benchmark Evaluation for Natural Language Generation (GEM), ACL 2021

## SKILLS

- **Currently using:** Python, Pytorch, Bash.
- **Prior Professional Experience:** Jax/Flax, Scala, Java, C++, Tensorflow, Apache Spark, Apache Hadoop, Deeplearning4j