

Aman Madaan

Ph.D. student at LTI, CMU

Interested in language modeling and generation, graph-based reasoning

<https://madaan.github.io>

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[Google scholar profile](#)

EDUCATION

School of Computer Science, Carnegie Mellon University

AUGUST 2021 - PRESENT

Ph.D. Language Technologies

Advisor: Prof. Yiming Yang

School of Computer Science, Carnegie Mellon University

AUGUST 2019 - AUGUST 2021

M.S. Language Technologies (CPA: 4.19/4.33)

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

RESEARCH INTERESTS

- Generation of text and graphs, Language Modeling, Graph-based Reasoning, Commonsense reasoning

SELECTED PEER-REVIEWED PUBLICATIONS

- **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-IJCNLP 2021*, pages 5138–5147, Online, 2021
- **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 Poczos, 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 @ ICLR*, 2020
- **Aman Madaan**, Ashish Mittal, Ganesh Ramakrishnan, and Sunita Sarawagi. Numerical relation extraction with minimal supervision. In *Thirtieth AAAI Conference on Artificial Intelligence. AAAI*, 2016

INDUSTRY EXPERIENCE

- **Google Research, Brain Team** (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)

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, 53rd Convocation, IIT Bombay, **August 2015**.
- **Institute Silver Medal**, 53rd 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

- **Madaan, Aman**, Niket Tandon, Peter Clark, and Yiming Yang. Memory-assisted prompt editing to improve gpt-3 after deployment. *arXiv preprint arXiv:2201.06009*, 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, ACL (2020, 2021), EMNLP (2020, 2021), AAAI (2021, 2022), EACL 2021 (**Outstanding reviewer**), NAACL 2021, NLP for social good 2021
- Organizer, Workshop on Benchmark Evaluation for Natural Language Generation (GEM), ACL 2021