Ameet Deshpande

Princeton University Indian Institute of Technology Madras
asd@princeton.edu • ameetdeshpande.com

Education

Princeton University — **Princeton, USA**
Ph.D. candidate in Natural Language Processing — *2019–present*

Princeton University — **Princeton, USA**
Masters in Computer Science, GPA – 3.94/4 — *2019–2021*

Indian Institute of Technology Madras — **Chennai, India**
Bachelor of Technology, GPA – 9.73/10 — *2015–2019*

Professional Experience

Allen Institute for Artificial Intelligence (AI2) — **Seattle, WA**
Research Intern — *Oct 2022–Aug 2023*

- Authored a first-of-its-kind study on AI safety that sheds light on vulnerabilities in persona-assigned LLMs
- Featured in WSJ, CNBC, TechCrunch, VentureBeat, with our paper listed as a key innovation in the development of ChatGPT

IBM Research — **Yorktown Heights, NY**
Research Intern — *June 2021–Aug 2021*

- Developed and filed a **patent** for an efficient **continual learning system** which uses 99% less memory
- Created a cognitively inspired system (SPARTAN) for improved inference efficiency of NLP Models (90% faster)

Scholastic Achievements and Awards

- Won **silver medal** in the **International Chemistry Olympiad** 2015, Azerbaijan (representing India) contested by 80 countries
- Received the Princeton Graduate School Teaching Award for significant contribution to undergraduate teaching
- **All India Rank 122** in JEE (Advanced) 2015, taken by 1.3 million students (99.99 percentile) and **first** rank in Karnataka
- Awarded the CMC Prize for securing **Branch Rank 2** among 61 students (B.Tech+Dual Degree) of CSE at IIT Madras
- Won the Dr Dilip Veeraraghavan Memorial Award for scholastic achievements in the humanitites concentration
- Received the government's MCM scholarship for being in the **top 5** out of 850 students admitted to IIT Madras in 2015

Publications and Patents

Conferences, Journals, and Workshops

[1] *SemSup-XC: Semantic Supervision for Zero and Few-shot Extreme Classification*
P. Aggarwal, **A. Deshpande**, and K. Narasimhan
ICML (2023).

[2] *Instructeval: Systematic evaluation of instruction selection methods*
A. Ajith, C. Pan, M. Xia, **A. Deshpande**, and K. Narasimhan
NeurIPS R0-FoMo (2023).

[3] *Anthropomorphization of AI: Opportunities and Risks*
A. Deshpande, T. Rajpurohit, K. Narasimhan, and A. Kalyan
NeurIPS RegML (2023).

[4] *CSTS: Conditional Semantic Textual Similarity*
A. Deshpande*, C. E. Jimenez*, ..., T. Rajpurohit, A. Kalyan, D. Chen, and K. Narasimhan
EMNLP (2023).

[5] *Toxicity in chatgpt: Analyzing persona-assigned language models*
A. Deshpande*, V. Murahari*, T. Rajpurohit, A. Kalyan, and K. Narasimhan
EMNLP (2023).

[6] *MUX-PLMs: Pre-training Language Models with Data Multiplexing*
V. Murahari, **A. Deshpande**, C. E. Jimenez, ..., and K. Narasimhan
EMNLP (2023).

[7] *When is BERT Multilingual? Isolating Crucial Ingredients for Cross-lingual Transfer*
A. Deshpande, P. Talukdar, and K. Narasimhan
NAACL (2022).

[8] *Guiding Attention for Self-Supervised Learning with Transformers*
A. Deshpande and K. Narasimhan
EMNLP (2020).

[9] *CLEVR Parser: A Graph Parser Library for Geometric Learning on Language Grounded Image Scenes*
R. Saqur and **A. Deshpande**
EMNLP NLP-OSS (2020).

[10] *Leveraging Ontological Knowledge for Neural Language Models*
A. Deshpande and M. Jegadeesan
CODS-COMAD (2019).

[11] *Figurenet: A deep learning model for question-answering on scientific plots*
R. Reddy, R. Ramesh, **A. Deshpande**, and M. M. Khapra
IJCNN (2019).

Patents

[1] *REMIND: Iterative Distillation for Domain Adaptation*
A. Deshpande, M. A. Sultan, A. Ferritto, A. Kalyan, K. Narasimhan, and A. Sil
Patent pending (2023).

[2] *MUX-PLMs: Pre-training Language Models with Data Multiplexing*
V. Murahari, **A. Deshpande**, C. E. Jimenez, I. Shafran, M. Wang, Y. Cao, and K. Narasimhan
Patent pending (2023).

Social and Professional Service

Diversity in AI	• **Teachers as Scholars, 2023:** Presented the frontiers of NLP research to high school teachers from the Princeton area to empower them to help their students embark on their NLP journey • **AI/ML Winter School, 2022:** Instructor for a course designed for professors from Indian universities to incorporate machine learning in their teaching and research • **Princeton AI4ALL, 2020:** Research instructor for Princeton AI4ALL, an initiative intended to increase diversity and inclusion in the field of artificial intelligence. Developed material, taught classes, and mentored a group of six students on a natural language processing project on detecting fake news • **Deep Learning Master Class, 2019:** Conducted classes for an audience of **90** undergraduates and post-graduates from different departments, covering the basics of machine learning and deep learning [Slides]
NLP for Social Good	• Founder member of Princeton NLP4SocialGood, an initiative to **provide natural language processing advice** to individuals, start-ups, and non-profit organizations championing **social impact projects**
Teaching	• COS324: Introduction to Machine Learning (Prof. Sanjeev Arora), Fall 2020 • COS484: Natural Language Processing (Prof. Danqi Chen and Prof. Karthik Narasimhan), Spring 2020
Reviewing/PC	• NeurIPS (2023), TMLR (2023), NeurIPS (2022), NAACL (2022), ICML (2022), ARR (2022), Computer Speech & Language (2022), EMNLP (2021), AAAI (2020)

Extra-curricular activities

Sports	• Part of Inter-College IIT Madras Soccer team for two consecutive years; Dorm soccer **captain** ('17-'18) • Won 3 **silvers** in cycling, 2 **silvers** in Road-Race (7.8 km), and a **bronze** in soccer (Inter-dorm Sports)
Sci-tech	• Finished **second out of 500 teams** in Mimamsa 2017, an **All India Science Quiz** held by IISER Pune • Finished **1st** in the Inter Hostel Technical Meet (**TechSoc**) 2017 and **3rd** in 2016