

# Shashank Gupta

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EDUCATION	<b>University of Illinois at Urbana Champaign</b> M.S., Computer Science Thesis Adviser: Prof. Dan Roth <b>Birla Institute of Technology and Science, Pilani, India</b> B.E. (Hons.), Computer Science	(Aug'15 - Dec'17)    (Aug'08 - June'12)
INDUSTRIAL EXPERIENCE	<ul style="list-style-type: none"><li>• <b>Applied Scientist:</b> Allen Institute for AI (AI2), Seattle, WA <i>Themes: AI for Scientific Discovery, Multi-hop-Reasoning; LLM self-verification; Biases in LLM</i></li><li>• <b>Applied Scientist:</b> Microsoft AI, Redmond, WA <i>Themes: Multi-Task Learning; Mixture-of-Experts; Efficient Fine-tuning; Dialogue Systems; Domain Adaptation</i></li><li>• <b>Research Assistant:</b> Yahoo Labs, India <i>Themes: ML for Display Ad optimization; User-Response Prediction</i></li><li>• <b>Research Intern:</b> Yahoo R&amp;D, India <i>Themes: ML for Search Ad Optimization; User-Response Prediction</i></li></ul>	(Oct'22 - Present)  (Apr'18 - Sept'22)  (June - Dec'12)  (Jan - June'12)
ACADEMIC RESEARCH EXPERIENCE	<b>Research Assistant:</b> <ul style="list-style-type: none"><li>• <b>UIUC:</b> Cognitive Computation Group <i>Themes: Zero-shot Text Classification; Text Generation; Structured Prediction</i></li><li>• <b>Max Planck Institute (MPI),</b> Databases &amp; Info. Sys. Group <i>Themes: Entity Disambiguation; Automated KB Construction</i></li><li>• <b>IIT-Bombay:</b> InfoLab <i>Themes: Entity Search &amp; Disambiguation; Distributed Indexing</i></li></ul>	(Aug'15 - Dec'17)  (Aug'14 - April'15)  (Jan'13 - June'14)
SELECTED PUBLICATIONS	<ol style="list-style-type: none"><li>8. <u>LLM-SR: Scientific Equation Discovery via Programming with Large Language Models.</u> P. Shojaei, K. Meidani, <b>S. Gupta</b>, A. B. Farimani, C. K. Reddy <i>Under review, 2024</i></li><li>7. <u>Bias Runs Deep: Implicit Reasoning Biases in Persona-Assigned LLMs.</u> <b>S. Gupta</b>, V. Shrivastava, A. Deshpande, A. Kalyan, P. Clark, A. Sabharwal, T. Khot <i>International Conference on Learning Representations (ICLR), 2024</i></li><li>6. <u>Self-Refine: Iterative Refinement with Self-Feedback.</u> A. Madaan, N. Tandon, P. Gupta, S. Hallinan, L. Gao, S. Wiegrefe, U. Alon, N. Dziri, S. Prabh-moye, Y. Yang, <b>S. Gupta</b>, B. P. Majumder, K. Hermann, S. Welleck, A. Yazdanbakhsh, P. Clark <i>Conference on Neural Information Processing Systems (NeurIPS), 2023</i></li><li>5. <u>Sparsely Activated Mixture-of-Experts are Robust Multi-Task Learners.</u> <b>S. Gupta</b>, S. Mukherjee, K. Subudhi, E. Gonzalez, D. Jose, A. H. Awadallah, J. Gao <i>ArXiv, 2022</i></li><li>4. <u>Knowledge Infused Decoding.</u> R. Liu, G. Zheng, <b>S. Gupta</b>, R. Gaonkar, C. Gao, S. Vosoughi, M. Shokouhi, and A.H. Awadallah <i>International Conference on Learning Representations (ICLR), 2022</i></li><li>3. <u>Exploring Low-Cost Transformer Model Compression for Large-Scale Commercial Reply Suggestions.</u> V. Shrivastava*, R. Gaonkar*, <b>S. Gupta*</b>, A. Jha *Equal Contribution <i>Microsoft Journal of Applied Research (MSJar), 2021</i></li></ol>	[pdf]  [pdf]  [pdf][code][project]  [pdf]  [code][pdf]  [pdf]

2. CogCompNLP: Your Swiss Army Knife for NLP  
D. Khashabi, M. Sammons, B. Zhou, T. Redman, C. Christodoulopoulos, V. Srikumar, N. Rizzolo,  
L. Ratinov, G. Luo, Q. Do, C. T. Tsai, S. Roy, S. Mayhew, Z. Feng, J. Wieting, X. Yu, Y. Song,  
**S. Gupta**, S. Upadhyay, N. Arivazhagan, Q. Ning, S. Ling, D. Roth  
*International Conference on Language Resources and Evaluation (LREC), 2018*      [\[code\]](#)[\[pdf\]](#)
1. Web-scale Entity Annotation Using MapReduce  
**S. Gupta**, V. Chandramouli, S. Chakrabarti  
*International Conference on High Performance Computing (HiPC), 2013*      [\[project\]](#)[\[pdf\]](#)

TEACHING  
EXPERIENCE

**Teaching Assistant:**

- **UIUC:** Machine Learning, CS446 *(Aug - Dec'16)*
- **IIT-Bombay:** Web Search and Mining, CS635 *(July - Nov'13)*
- **BITS-Pilani:** Operating Systems, CS C372 *(Aug - Dec'11)*

TECHNICAL  
SKILLS

**Languages:** *Proficient:* Python | *Intermediate:* Java | *Basic:* C++, HTML/CSS, JavaScript  
**Toolkits:** PyTorch, Tensorflow, HuggingFace, AzureML, Hadoop, CogComp-NLP

REFERENCES

**Peter Clark**, *Senior Research Manager, AI2* | peterc@allenai.org  
**Milad Shokouhi**, *Partner Applied Scientist, Microsoft AI* | milads@microsoft.com  
**Ahmed H. Awadallah**, *S. Principal Research Manager, MSR* | hassanam@microsoft.com  
**Dan Roth**, *Distinguished Professor, UPenn* | danroth@seas.upenn.edu  
**Soumen Chakrabarti**, *Professor, IIT-Bombay* | soumen@cse.iitb.ac.in