

Manoj Kumar Chinnakotla

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Summary

Applied Scientist with strong experience in the areas of Web Search, Relevance, Natural Language Processing (NLP), Machine Learning (ML) and Deep Learning (DL). Proven track record of applying state-of-the-art research for building and shipping real world commercial products and experiences used by millions of users across the world. Strong publication record in relevant premiere AI, NLP, ML conferences and journals.

Experience

Apr 2018 - Current

Senior Applied Scientist
AI and Research, Microsoft, Bellevue, USA

Bing Autosuggest Relevance

- Deep Learning for Next Word Prediction in Search Queries
 - Shipped LSTM and GPT-2 based models for predicting phrase completions in search queries
- Defective Query Identification
 - Shipped models for identifying defective queries using a combination of engagement and search query embeddings

Windows Search Box Relevance

- Shipped Machine Learning rankers for ranking suggestions in Windows Search Box which has more than 400 million users

Feb 2012 - Apr 2018

Senior Applied Scientist
STC India, Microsoft IDC, Hyderabad, India

AI Based Content Moderation

- Shipped deep learning techniques for detecting inappropriate language in search queries and conversational text.

Cortana NLU

- Shipped various features on Cortana based on mining interesting facts from Wikipedia, Entity graphs and other structured information sources

Bing Web Search Relevance

- Shipped ML based techniques to identify and promote search results from authoritative domains

2015 – Current

Adjunct Faculty
IIIT Hyderabad, Hyderabad, India

- As a part-time adjunct faculty, taught graduate-level courses on applications of deep learning for information retrieval.
- Was a thesis advisor for more than 10 master's students in Language Technology Research Center (LTRC)

2002 - 2004

Senior Member of Technical Staff,
Persistent Systems Pvt. Ltd., Pune, India

Education

Doctor of Philosophy (Ph.D),

Department of Computer Science and Engineering,
Indian Institute of Technology (IIT), Bombay -- Mumbai, India
Advisors: Prof. Pushpak Bhattacharyya and Prof. Om P. Damani

Master of Technology (M.Tech),

Department of Computer Science and Engineering,
Indian Institute of Technology (IIT), Bombay -- Mumbai, India

Bachelor of Technology (B.Tech),

Department of Computer Science and Engineering,
S.V. University College of Engineering, Tirupati, India

Publications ([Google Scholar Profile](#))

1. Puneet Agrawal, Manoj K. Chinnakotla, Sonam Damani, Meghana Joshi, Kedhar Nath Narahari, Nitya Raviprakash, Umang Gupta, Ankush Chatterjee, Abhishek Mathur, Sneha Magapu, "Ruuh: A Deep Learning Based Conversational Social Agent", In **NIPS 2018** (Demo Track), Montreal, Canada.
2. Vishal Gupta, Manoj K. Chinnakotla and Manish Shrivastava, "Retrieve and Re-rank: A Simple and Effective IR Approach to Simple Question Answering over Knowledge Graphs", In **EMNLP 2018**, Brussels, Belgium.
3. Manoj K. Chinnakotla and Puneet Agrawal, "Lessons from Building a Large-Scale Commercial IR-based Chatbot for an Emerging Market", In the Proceedings of 41st Annual ACM SIGIR Conference (**SIGIR 2018**), Ann Arbor, USA.
4. Pravallika Etoori, Manoj Chinnakotla and Radhika Mamidi, "Automatic Spelling Correction for Resource-Scarce Languages using Deep Learning", In the Proceedings of 56th Annual Meeting of the Association for Computational Linguistics (**ACL 2018**), Melbourne, Australia.
5. Vishal Gupta, Manoj Chinnakotla and Manish Shrivastava, "Transliteration Better than Translation? Answering Code-Mixed Questions over a Knowledge Base", In the Proceedings of 56th Annual Meeting of the Association for Computational Linguistics (**ACL 2018**), Melbourne, Australia.
6. Khyathi Chandu, Ekaterina Loginova, Vishal Gupta, Josef van Genabith, Günter Neuman, Manoj Chinnakotla, Eric Nyberg and Alan W. Black, "Code-Mixed Question Answering Challenge:

- Crowd-sourcing Data and Techniques*”, In the Proceedings of 56th Annual Meeting of the Association for Computational Linguistics (**ACL 2018**), Melbourne, Australia.
7. Harish Yenala, Ashish Jhanwar, Manoj Chinnakotla, Jay Goyal, [“Deep Learning for Detecting Inappropriate Content in Text”](#), International Journal of Data Science and Analytics (**JDSA**), Springer, 2017
 8. Harish Yenala, Manoj K. Chinnakotla, Jay Goyal, [“Convolutional Bi-Directional LSTM for Detecting Offensive Query Suggestions in Web Search”](#), In the Proceedings of 21st Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD 2017**), Jeju Island, South Korea (**Winner of the Best Paper Award**).
 9. Arpita Das, Saurabh Shrivastava, Prateek Agrawal, Sandeep Sahoo and Manoj Chinnakotla, *“Discovery and Promotion of Subtopic Level High Quality Domains for Programming Queries in Web Search”*, In the Proceedings of 7th International Conference on the Theory of Information Retrieval (**ICTIR 2017**), Amsterdam, Netherlands.
 10. Khyathi Chandu, Manoj Chinnakotla, Alan Black, Manish Shrivastava, *“WebShodh: A Code Mixed Factoid Question Answering System for Web”*, In the Proceedings of 8th International Conference of the CLEF Association (**CLEF 2017**), Dublin, Ireland (System Demo URL: <http://bit.ly/2tp4Iem>)
 11. Nausheen Fatma, Manoj K. Chinnakotla, Manish Shrivastava, *“The Unusual Suspects: Deep Learning Based Mining of Interesting Entity Trivia from Knowledge Graphs”*, In the Proceedings of 31st AAAI Conference on Artificial Intelligence (**AAAI 2017**), San Francisco, USA.
 12. Sai Praneeth, Naga Goutham, Manoj K. Chinnakotla, Manish Shrivastava, *“Hand in Glove: Deep Feature Fusion Network Architectures for Answer Quality Prediction in Community Question Answering”*, In the Proceedings of 26th International Conference on Computational Linguistics (**COLING 2016**), Osaka, Japan.
 13. Sai Praneeth, Naga Goutham, Manoj K. Chinnakotla, Manish Shrivastava, *“Deep Feature Fusion Networks for Answer Quality Prediction in Community Question Answering”*, In Neu-IR Workshop on Neural Information Retrieval (**SIGIR 2016**), Pisa, Italy.
 14. Arpita Das, Manoj K. Chinnakotla, Manish Shrivastava, *“Together We Stand: Siamese Networks for Similar Question Retrieval”*, In the Proceedings of 54th Annual Meeting of the Association for Computational Linguistics (**ACL 2016**), Berlin, Germany.
 15. Arpita Das, Manish Shrivastava, Manoj K. Chinnakotla, *“Mirror on the Wall: Finding Similar Questions using Deep Semantic Topic Modeling”*, In the Proceedings of 20th Pacific Asia Conference on Knowledge Discovery and Data Mining (**PAKDD 2016**), Auckland, NZ.
 16. Abhay Prakash, Manoj K. Chinnakotla, Dhaval Patel, Puneet Garg, *“Did you Know?: Mining Interesting Trivia for Entities from Wikipedia”*, In the Proceedings of 24th International Joint Conference on Artificial Intelligence (**IJCAI 2015**), Buenos Aires, Argentina.
 17. Khyathi C. Raghavi, Manoj K. Chinnakotla, Manish Shrivastava, *“Answer ka type kya hai?: Learning to Classify Questions in Code-Mixed Language”*, In the Proceedings of 24th International World Wide Web Conference (**WWW 2015**), Florence, Italy.

18. Harish Yenala, Avinash Kamineni, Manish Shrivastava, Manoj Kumar Chinnakotla, "IIT-H at BioASQ Challenge 2015 Task 3B: Bio-Medical Question Answering System", **CLEF 2015**.
19. Avinash Kamineni, Nausheen Fatma, Arpita Das, Manish Shrivastava, Manoj Kumar Chinnakotla, "IIT-H at BioASQ Challenge 2015 Task 3A: Extreme Classification of PubMed Articles using MeSH Labels", **CLEF 2015**.
20. Manoj K. Chinnakotla, Rupesh K. Mehta and Vipul Agrawal, "Unsupervised Detection and Promotion of Authoritative Domains for Medical Queries in Web Search", In the Proceedings of 11th International Conference on Natural Language Processing (**ICON 2014**), Goa, India.
21. Manoj K. Chinnakotla, Om P. Damani and Avijit Satoskar, "Transliteration for Resource-Scarce Languages", ACM Transactions on Asian Language Information Processing (**ACM TALIP**), Volume 9, Issue 4, December 2010.
22. Manoj K. Chinnakotla, Karthik Raman, Pushpak Bhattacharyya, "Multilingual Pseudo-Relevance Feedback: Performance Study of Assisting Languages", In the Proceedings of 48th Annual Meeting of the Association for Computational Linguistics (**ACL 2010**), Uppsala, Sweden.
23. Manoj K. Chinnakotla, Karthik Raman, Pushpak Bhattacharyya, "Multilingual PRF: English Lends a Helping Hand", In the Proceedings of 33rd Annual ACM SIGIR Conference (**SIGIR 2010**), Geneva, Switzerland.
24. Vishal Vacchani, Manoj K. Chinnakotla, Mitesh Khapra and Pushpak Bhattacharyya, "More Languages, More MAP?: A Study of Multiple Assisting Languages in Multilingual PRF", In the Proceedings of 4th Workshop on CLIA, Computational Linguistics Conference (**COLING 2010**), Beijing, China.
25. Manoj K. Chinnakotla, Vishal Vacchani, Shalini Gupta, Karthik Raman, Pushpak Bhattacharyya, "IITB CFILT @ FIRE 2010: Discriminative Approach to IR", **FIRE 2010**, Gandhinagar, India.
26. Manoj K. Chinnakotla and Om P. Damani, "Character Sequence Modeling for Transliteration", In the Proceedings of 7th International Conference on Natural Language Processing (**ICON 2009**), Hyderabad, India.
27. Manoj K. Chinnakotla and Pushpak Bhattacharyya, "Language Modeling Based Local Set Re-Ranking using Manual Relevance Feedback", In the Proceedings of 7th International Conference on Natural Language Processing (**ICON 2009**), Hyderabad, India.
28. Manoj K. Chinnakotla and Om P. Damani, "Experiences with English-Hindi, English-Tamil and English-Kannada Transliteration Tasks at NEWS 2009", In the Proceedings of ACL-IJCNLP Named Entities Workshop (**NEWS 2009**), Singapore, 2009.
29. Nilesh Padariya, Manoj K. Chinnakotla, Ajay Nagesh and Om P. Damani, "Evaluation of Hindi-English, Marathi-English and English-Hindi CLIR at FIRE 2008", Working Notes of Forum for Information Retrieval Evaluation (**FIRE 2008**), Kolkata, India.
30. Manoj K. Chinnakotla, Sagar Ranadive, Om P. Damani and Pushpak Bhattacharyya, "Hindi to English and Marathi to English Cross Language Information Retrieval Evaluation", Advances in Multilingual and Multimodal Information Retrieval (**CLEF 2007**), Volume 5152, Springer, LNCS, 2008.

31. Manoj K. Chinnakotla and Sunita Sarawagi, "Graphical Models for Multi-labeled Text Classification", KReSIT Technical Report, IITB/KReSIT/2006/November/34.

Tutorials and Invited Talks

Tutorials

- Manoj K. Chinnakotla and Parth Gupta, "[Deep Learning for Information Retrieval](#)", FIRE 2016, Kolkata, India.
- Manoj K. Chinnakotla, *Question Answering Systems*, IIIT-H Advanced Summer School on NLP (IASNLP 2015), Hyderabad, India
- Manoj K. Chinnakotla, Manish Shrivastava and Radhika Mamidi, *Question Answering Techniques for Structured, Semi-Structured and Unstructured Information Sources (Full Day)*, **ICON 2014**, Goa, India.

Invited Talks/Workshops

- **The Neural Revolution: How Deep Learning in changing the landscape of Search and Relevance** - Industrial Keynote Lecture in "[NVidia Developer Connect](#)" conference on 20th Dec, 2017 at Bengaluru, India.
- **Leveraging Parallel and Multilingual Corpora for Multilingual NLP** - Invited Talk in [CUPRAL Workshop of IJCNLP 2017](#) held on 27th Nov, 2017 at Taipei, Taiwan.
- **The Neural Revolution in IR: From Search Engines to Conversational Agents** - Invited Talk in The Indus Entrepreneurs (TiE) Meet at International School of Engineering (INSOFE), Hyderabad on 5th October, 2017.
- **Recent Advances in Deep Learning at Microsoft** - Industry Talk at [CVIT Summer School on Deep Learning 2016](#), IIIT Hyderabad.
- **Did you know?: Mining Interesting Trivia for Entities from Wikipedia** - Talk at *Machine Learning, Analytics and Data Science (MLADS) 2015*, Redmond, USA, December, 2015
- Workshop on *Machine Learning for Information Retrieval*, IIT Kanpur, India, April, 2015
- Workshop on *Predictive Modeling using Machine Learning*, IIT Roorkee, India, October, 2015
- *Machine Learning for Query-Document Matching in Web Search* - Invited Talk at *ACM Hyderabad Chapter*, Hyderabad, India, May 2012.
- *Multilingual Pseudo-Relevance Feedback*, Xerox Research Centre, Bangalore, India, Jan 2012
- *Multilingual Information Access*, IBM Research, Bangalore, India, Sep 2011

Blogs and Articles

- *Microsoft IDC Blog*
 - [Mitigating Offensive Search Suggestions using Deep Learning](#)
 - [Creating AI that can respond to questions in mixed languages like humans](#)
- *Indiatimes Article*
 - [How Deep Learning is teaching machines to detect & filter inappropriate responses like a boss](#)

Media Coverage

- [Making web browsing safer for children and women: The Hindu](#)

- [New method for safe surfing: The Hans India](#)
 - [New method for accurate online surfing: Telangana Today](#)
 - [Web search takes a safer route: E&T India](#)
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Awards and Honors

- Recipient of “Greatness in Engineering” award across the entire AI Core organization of Microsoft for Q1 of FY 2018.
 - Recipient of “Best Paper Award” in PAKDD 2017 international conference out of 458 research papers submitted across the world.
 - Recipient of “Infosys Research Fellowship Award” for the duration of March 2007- March 2010.
 - Recipient of “Student Travel Award” and “Donald B. Crouch Travel Grant” at SIGIR 2010.
 - Secured the first place for any Indian Language to English Cross Lingual Information Retrieval (CLIR) and fifth place for any language to English CLIR at CLEF 2007 forum.
 - Secured the second place in the NEWS (Named Entities Workshop) 2009 Shared Task on Transliteration held in conjunction with ACL-IJCNLP 2009.
 - Secured a position in the top 0.2% (Rank: 163) amongst 50,000 candidates in the state-level Engineering Entrance Examination.
 - Ranked 7th state-wide in the Junior Intermediate Examinations conducted by Board of Intermediate Education, Andhra Pradesh.
 - Recipient of “National Merit Scholarship” for meritorious academic performance in Intermediate Board Examination.
 - Recipient of “Telugu Vijnana Parithoshikam” (a state government sponsored scholarship) for meritorious academic performance in SSC Board Examinations.
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Professional Service

- Organizer of [HAI 2018](#) research workshop in [IJCAI 2018](#)
 - Organizer of [Shared Task on Code Mixing Question Answering](#) research challenge
 - Program Committee Member for
 - EMNLP 2020, ECIR 2020, ECIR 2019, ACM CoDS-COMAD 2019
 - NAACL 2018, IJCAI 2016, MIKE 2015, FIRE 2014, ICON 2014
 - Reviewer for
 - ACM Transactions for Asian Language Information Processing (ACM TALIP)
 - MIKE 2015, MIKE 2014
 - International Conference on Natural Language Processing (ICON)
 - NAACL 2018, IJCAI 2016
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References

Prof. Pushpak Bhattacharyya,
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Senior Director,
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