

**Name:** Dr. Ajit Kumar

**Designation:** Associate Professor and Registrar

**Specialization:** Computer Applications, NLP, MT

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### **Education**

- MCA from Himachal Pradesh University, Shimla (1995)
- M.Phil. from Madurai Kamaraj University, Madurai(2007)
- Ph.D from Punjabi University, Patiala (28th May, 2015)  
Topic: Development of Statistical Approach Based Hindi to Punjabi Machine Translation System

### **Professional Experience:**

- Multani Mal Modi College, Patiala (27th August, 2002 to till date)
- Patiala College of Management and Technology, Patiala (August 2000 to 30 June 2002)
- Regional Institute of Management and Administration, Chandigarh (January 1998 to January 2000)

### **Teaching Interests:**

- Data and File Structure
- Computer Organization and Architecture
- Artificial Intelligence
- C, C++, Java, Python

### **Research Interest:**

Machine Translation, Natural language Processing

### **Publications**

1. Manpreet Singh Lehal, **Ajit Kumar**, Vishal Goyal, “Comparative Analysis of Similarity Measures for Extraction of Parallel Data” in International Journal of

Control and Automation (2019) ISSN: 2005-4297

<http://sersc.org/journals/index.php/IJCA/article/view/2947>

2. **Ajit Kumar** and Vishal Goyal, "Hindi to Punjabi machine translation system based on statistical approach" in Journal of Statistics and Management Systems, (2018) ISSN: 0972-0510 (Print) 2169-0014 (Online)  
<https://doi.org/10.1080/09720510.2018.1466963>
3. Manpreet Singh Lehal, **Ajit Kumar**, Vishal Goyal, "Review of techniques for extraction of bilingual lexicon from comparable corpora", in International Journal of Engineering & Technology, 7 (2.30) (2018) 15-20 ISSN: 2278 – 1323  
<https://www.sciencepubco.com/index.php/ijet/article/view/13456>
4. Kamal Deep, **Ajit Kumar**, Vishal Goyal, "Development of Punjabi-English (PunEng) Parallel Corpus for Machine Translation System, in International Journal of Engineering & Technology, 7 (2) (2018) 690-693 ISSN: 2278 – 1323  
[http://ijarcet.org/?page\\_id=4719](http://ijarcet.org/?page_id=4719)
5. Manu Raj Moudgil, Preeti Dubey, **Ajit Kumar** , "Challenges in building Dogri-Hindi Statistical MT System" in An International Journal of Engineering Sciences, Issue July 2017, Vol. 24, ISSN: 2229-6913(Print), ISSN: 2320-0332(Online), UGC Approved Journal (S.No.63019)  
<http://ijoes.vidyapublications.com/paper/Vol24/03-Vol24.pdf>
6. Gurvir Kaur, Sukhdev Singh, **Ajit Kumar**, "Urdu Ligature Recognition Techniques- A Review", in International Conference on Intelligent Communication and Computational Techniques (ICCT), (2017) Electronic ISBN: 978-1-5386-3030-3 DOI: 10.1109/INTELCCT.2017.8324060  
<https://ieeexplore.ieee.org/document/8324060>
7. Jyoti, **Ajit Kumar**, "Thresholding Techniques for Ancient Document Images" in International Journal of Advanced Research in Computer Engineering & Technology, Vol. 5 Issue 9, pp: 2345-2350, ISSN:2278-1323 ( Sept. 2016)  
<http://ijarcet.org/wp-content/uploads/IJARCET-VOL-5-ISSUE-9-2345-2350.pdf>
8. **Ajit Kumar** and Vishal Goyal, "Statistical Post Editing System (SPES) Applied to Hindi-Punjabi PB-SMT System", Indian Journal of Science and Technology, Vol

8(27),ISSN (Print) : 0974-6846 ISSN (Online) : 0974-5645 (2015)

<http://www.indjst.org/index.php/indjst/article/view/82463>

9. Kamal Deep Garg and **Ajit Kumar**, "*A Survey of Spell Checkers Available for Hindi and Punjabi*" in the proceedings of International Conference of Advances in Computers, Communication, and Electronic Engineering (COMMUNE-2015) held in the University of Kashmir, Srinagar, India from 16-18 March 2015.
10. Deepali, Vishal Goyal, **Ajit Kumar**, "*Sentiment Analysis of Views Written in Gurmukhi Script*" in the proceedings of International Conference of Advances in Computers, Communication, and Electronic Engineering (COMMUNE-2015) held in the University of Kashmir, Srinagar, India from 16-18 March 2015.
11. **Ajit Kumar** and Vishal Goyal, "Practical Approach For Developing Hindi-Punjabi Parallel Corpus" in the proceedings of Workshop on Indian Language and Data: Resources and Evaluation, Istanbul, Turkey, (2012) (Available Offline)
12. **Ajit Kumar** and Vishal Goyal, "Comparative Analysis of Tools Available for Developing Statistical Approach Based Machine Translation System" in Springer: Communication in Computer and Information Science Vol 139 with ISSN:1865-0929 (2011) (Available Offline)
13. **Ajit Kumar** and Vishal Goyal, "TDIL Programme: A Government Initiative" in An international Journal of Engineering Sciences, Journal Inauguration Issue 2010 with ISSN:2229-6913 (print), 2320-0332(online) (2010)  
<http://ijoes.vidyapublications.com/paper/JSI/1.pdf>

### **Book/Book chapter**

1. Nitin Bansal, **Ajit Kumar**, "Java Programming BCA, 5th Sem. Pbi Uni." 1st Edition , Kalyani Publishers (2014 ), ISBN: 93-272-2201-2
2. Nitin Bansal, **Ajit Kumar**, "A Simplified Approach to Internet Programming and Java BCA, 3rd Year Pb. Uni." 4th Edition , Kalyani Publishers (2013 ), ISBN: 93-272-2127-5
3. Nitin Bansal, **Ajit Kumar**, "A Simplified Approach to Java Programming PTU", 1st Edition , Kalyani Publishers (2013 ), ISBN: 93-272-3483-1

4. Nitin Bansal, **Ajit Kumar**, “Objective Computer Science (UGC) NET, JRF Entrance”, 1st Edition , Kalyani Publishers (2013 ), ISBN: 93-272-3090-1
5. Nitin Bansal, **Ajit Kumar**, “A Simplified Approach to Concepts of Core and Advanced Java M.Sc. GNDU”, 1st Edition , Kalyani Publishers (2012 ), ISBN: 93-272-2171-8
6. Nitin Bansal, **Ajit Kumar**, “Java Programming BCA, 5th Sem. Bangalore.” 1st Edition , Kalyani Publishers (2010 ), ISBN: 81-272-6244-0

## **Conference**

### **A) Resource Person / Invited Lectures:**

1. Chaired a session in conference “Role of IT in Management & Engineering: Issues & Prospectus” Sponsored by Department of Science & Technology, Govt. of India, Organized by Malout Institute of Management & Information Technology (27-August 2016)
2. Delivered a lecture on 'Vision of Digital India' on 7th July 2015 at Govt. Bikram College of Commerce, Patiala.
3. Delivered a talk on Natural Language Processing at TQIP-II Sponsored Faculty Development Program on 14 January 2014 held at Guru Nanak Dev Engineering College, Ludhiana from 13 January 2014 to 17 January 2014.
4. Delivered a talk on 'Statistical Machine Translation and Installation of Moses' in the 7-days workshop held on Multilingual Technologies by the Department of Computer Science, Punjabi University, Patiala from 11 Nov 2013 to 17 Nov, 2013.

### **B) Paper presented:**

1. Presented a paper entitled “*Urdu Ligature Recognition Techniques- A Review*” in International Conference on Intelligent Communication and Computational Techniques (ICCT) organized by Manipal University, Jaipur (Dec 22-23, 2017)
2. Presented a paper entitled '*Statistical Past Editing System (SPES) Applied to Hindi-Punjabi PB-SMT System*' in the Third Regional International Conference on

Natural Language Processing (reglCON-2015) held on September 18-19, 2015 at Department of Computer Science, Punjabi University, Patiala.

3. Presented a paper entitled '*Transliteration Ststem: Punjbai to English*' in the Third Regional International Conference on Natural Language Processing (reglCON-2015) held on September 18-19, 2015 at Department of Computer Science, Punjabi University, Patiala.
4. Presented the paper entitled "*Comparative Analysis of Tools Available for Developing Statistical Approach Based Machine Translation System*" in International Conference on Information Systems for Indian Languages (ICISIL2011) held at Punjabi University Patiala from March 9, 2011 to March 11, 2011.
5. Presented a paper entitled '*Electronic Waste – Threat & Disposal Practices*' in the UGC sponsored National Seminar 'Prospects of IT : 2020' organized by Hindu Girls College, Jagadhri from September 14, 2010 to September 15, 2010 .

#### **Ph.D.**

1. Gurvir Kaur: **(On-going)** "*Development of OCR for Typewritten Gurmukhi Documents*" (Registration date: 21<sup>st</sup> May, 2019)
2. Kamal Deep Garg: (On-going) "*Development of Punjabi to English Machine Translation System*" (Registration date: 18<sup>th</sup> January, 2017)
3. Nitin Bansal: (On-going) "*Development of Punjabi to Urdu Machine Translation System Using Hybrid Approach*" (Registration date: 28<sup>th</sup> November, 2016)
4. Manpreet Singh: (On-going) "*Extracting Parallel Phrases from Comparable English and Punjabi Corpora using an Integrated Approach*" (Registration date: 28<sup>th</sup> November, 2016)

#### **Workshops and training courses**

1. Attended Awareness Programme/ **Workshop** by NAAC organized by Internal Quality Assurance Cell (IQAC) Guru Nanak Dev University, Amritsar (12th October, 2018)

2. Attended one-week **faculty development program** on “Contemporary Issues in Higher Education” from July 20-26, 2018 held at Multani Mal Modi College, Patiala
3. Attended **National Workshop** on “IPR Awareness and Plagiarism Detection Tool for Indian Language” Organized by Department of Computer Science, Punjabi University, Patiala in collaboration with IPR Division, DeitY, MoC&IT, GOI, New Delhi (13th May, 2016)
4. Attended 7 Days UGC Sponsored **Faculty Development Programme** on the theme “Academic Writing from Critical Appreciation to Publication” Organized by IQAC, Multani Mal Modi College, Patiala (9th -15th July 2015)
5. Participated in Two days **workshop** on “Statistical Machine Translation: Moses Tool Kit” Organized by Centre of Advanced Computing Research, Chitkara University, Punjab and Department of Computer Science, Punjabi University, Patiala (30-31 Dec, 2014)
6. Attended 15 Days UGC Sponsored **Faculty Development Programme** Organized by Multani Mal Modi College, Patiala (1st -15th July 2014)
7. Participated in TEQIP-II sponsored **National Workshop** on Natural Language Processing at Thapar University, Patiala on December 6-7, 2013.
8. Participated in UGC Sponsored **Refresher Course** at Academic Staff College, Punjabi University, Patiala from May 06, 2013 to May 25, 2013.
9. Participated in the Indian Languages Corpora Initiative (ILCI) Phase II **National Workshop** from 18th April to 20th April 2013 held at Punjabi University, Patiala.
10. Attended **Short Term Training** cum Awareness Programme on National Mission on Education through Information and Communication Technology for faculty of Ars/Science/Commerce/Medical/Law under various Universities of Punjab on October 19, 2012 held at Dr. B R Ambedkar National Institute of Technology, Jalandhar.
11. Attended Three Days **National Workshop** On Computational Sanskrit held at Sanatan Dharam College (Lahore), Ambala Cant from 11 November, 2011 to 13 November, 2011.

12. Participated in “3rd IIIT - Hyderabad Advanced School on Natural Language Processing” a 15-days **National Workshop** held at Language Technology Research Centre, International Institute of Information Technology, Hyderabad from 23rd May 2011 to 5th June 2011.
13. Participated in UGC Sponsored **Orientation Programme** at Academic Staff College, Himachal Pradesh University, Shimla from May 3, 2006 to May 30, 2006.
14. Participated in UGC Sponsored **Refresher Course** at Thapar Institute of Engineering & Technology, Patiala from December 05, 2005 to December 24, 2005.
15. Attended One Day **Workshop** on 'Integration of Information and Communication Technology in Higher Education' organized by The Secretary to Government, Punjab, Department of Higher Education, Chandigarh on September 22, 2005

### **Achievements, Awards and Recognitions**

#### **Membership**

- Member of the faculty of computing science, Punjabi University, Patiala from 19th March, 2019 to 10th January, 2021
- Member of the Faculty of Physical Science, Punjabi University, Patiala from 12.8.2015 to 11.1.2017