

CURRICULUM VITAE



- 1. Name** : Harish Kumar
- 2. Father's Name** : Sh. Niranjan Dass
- 3. Designation** : Associate Professor in Computer Science and Engineering, UIET, Panjab University, Chandigarh (uiet.puchd.ac.in)
- : Honorary Director, Centre for Skill Development & Entrepreneurship, Panjab University, Chandigarh (csde.puchd.ac.in)
- 4. Department** : University Institute of Engineering & Technology
- 5. Address Office** : Room # 203, Academic Block # 1, UIET, Panjab University, Sector-25, Chandigarh (UT) -India
E-mail: harish@pu.ac.in harishpau2001@yahoo.com
Phone: 91-9815964121, 91-172-2534995, 2534988
- Residential** : E-1/ 41, PU Campus, Sector-14, Chandigarh (UT)
- 6. Date of Birth** : December 17, 1978
- 7. Nationality** : Indian
- 8. Educational Background:**

| Examination | University/Board | Year |
|---|---|------|
| Ph.D. (Computer Science) | Panjab University, Chandigarh, India | 2009 |
| M. Tech. (Computer Science & Engineering) | Punjab Agricultural University, Ludhiana, India | 2001 |
| B.E. (Computer Engineering) | Punjab Technical University, Jalandhar, India | 1999 |

- Ph.D. Thesis: 'Auto-Configuration of IP Addresses in Mobile Ad-Hoc Networks (MANET)'
- M.Tech. Thesis: 'Client Server Approach for Online Registration'

Specialized Training:

| Executive Education Training | Institution | Year |
|---|---|------|
| Building Excellence in Professional Higher Education Institutions | Indian School of Business (ISB), Hyderabad | 2014 |
| Management Capacity Enhancement for Administrators | Indian Institute of Management (IIM), Lughnow | 2014 |
| Telecommunication Technology | FreeSwitch, Chicago (USA) | 2016 |

- 9. Research Areas** : Wireless Networks, Telecommunication Systems, Information Retrieval
- 10. Experience** : 1 Year Industry Experience, 15+ Year Teaching and Research

| Organization | Post | Period |
|-------------------------|----------------------------|----------------|
| UIET, Panjab University | Associate Professor in CSE | 2013-Till Date |
| | Reader in CSE | 2010-2013 |
| | Assistant Professor in CSE | 2006-2010 |
| | Lecturer in CSE | 2002-2006 |
| KCW, Ludhiana | Lecturer in CS | 2001-2002 |
| TCYOnline Solutions | Consultant | 2000-2001 |

11. Teaching Subjects : Information Retrieval, Mobile Computing, Data Structure & Algorithms, Computer Networks, Web Technologies, Software Testing & Quality

12. Sponsored Projects/Consultancy Work:

| Title | Funds / Agency | Duration |
|---|--|-----------|
| Visvesvaraya Young Faculty Research Fellowship | Rs. 37 Lacs / Media Lab Asia, Gol | 2016-2021 |
| Development of Unified IP based Communication Platform for Voice, Video, Data, Messaging and Chat Services | Rs. 60 Lacs / Deity, Gol and Coral Telecom | 2016-2018 |
| Technical Education Quality Improvement Programme-II (Nodal Officer-Academic) | Rs. 1500 Lac / World Bank and MHRD, Gol | 2012–2016 |
| Hostel Facility for SC/ST Students along with Community Skill Development Centre for their Skill Empowerment | Rs. 200 Lac / AICTE, Gol | 2013-2017 |
| Garnering Academia Perspective on Product Engineering Processes | Rs. 2.8 Lac / Infosys Limited | 2011 |
| Simulation & Experimental test bed for Routing Algorithms in Mobile Ad-hoc Networks | Rs. 11.05 Lac / DST, Gol | 2009-2012 |
| To explore the network requirement and implement Giga-Bit Ethernet technology along with ATM backbone of the University | Rs. 38.96 Lac / Panjab University | 2005-2008 |
| Conceptualize and development of Portal | TCY Learning Solutions | 2001 |

13. Extension and Research Interaction:

- Chaired 15+ sessions in various conferences like ICTRD-2009, NHSS-2011, ETNCC-2011, RIET-2012, Confluence 2012, NCRAET-2013, CSI Convention-2013 etc.
- Invited talks (40+) on different occasion at various institutes/ events like NITTTR Chandigarh, Infosys Limited, MIET Meerut, BBSBEC, ASC PU, ClueCon-2016, TelecoDays-2017, GCET-2017 etc.
- Attended 15+ training programmes at institutes like ISB Hyderabad, IIM Lucknow, IDC Chandigarh, CoE Pune etc.
- Coordinator to organize 15+ events like Refresher Course in IT, Cyber Security Symposium, Panel Discussions, Seminars etc.

14. University/ Institute Visits for Interaction:

USA: Massachusetts Institute of Technology (MIT), CyLab (CMU), Pardee RAND Graduate School, Brown University, ClueCon-2016

Europe: Agora University (Romania)

India: ISB Hyderabad, IIM Lucknow, Amity University, GB Pant University, MP University of Agriculture and Technology

15. List of Publications: Journals : 27; Technical Reports: 01;
Book Chapters: 11; Conference Proceedings: 32

Selected List:

Journal

- Mehgna Choudhary, Harish Kumar and Sakshi Kaushal, "The Case Analysis on Sentiment Based Ranking of Nodes in Social Media Space", Journal of Multimedia Tools and Applications, Springer, 2017, DOI: 10.1007/s11042-017-4700-3, (SCIE IF: 1.331)
- Raman Singh, Harish Kumar, RK Singla and RR Ketti, "Internet Attacks and Intrusion Detection System: Study and Review", Journal of Online Information Review, Volume 41, Issue 2, 2017, Emerald Insight, pp 171-184, (SCI IF: 1.152)
- Lokesh Jain, Harish Kumar and RK Singla, "Improved Rule Promotion based Localized Crop Information Dissemination System for Farmers of Punjab (India) using Mobile Phone Technology", Journal of Cybernetics and Systems, 47:6, pp 499-521, 2016 (SCIE IF: 0.888)
- Raman Singh, Harish Kumar and RK Singla, "An Intrusion Detection System using Network Traffic Profiling and Online Sequential Extreme Learning Machine", Expert Systems With Applications, Volume 42, 2015, pp 8609-8624 (SCIE IF: 2.62)
- Raman Singh, Harish Kumar and RK Singla, "A Reference Dataset for Network Traffic Activity based Intrusion Detection System", International Journal of Computer Communication and Control, Volume 10, Issue 3, pp 390-402, May 2015 (SCIE IF: 0.7)
- Lokesh Jain, Harish Kumar, Ravinder Kumar Singla, Pritpal Singh and Jagjeet Singh Lore, "Error Reduction in Promoted Confidence Factor of a rule using Improved Fuzzy Rule Promotion Technique", Journal of Cybernetics and Information Technologies, Volume 14, Issue 1, pp 72-83
- Lokesh Jain, Harish Kumar and R K Singla "Assessing Mobile Technology Usage for Knowledge Dissemination among Farmers in Punjab", Journal of Information Technology for Development, Taylor and Francis, Volume 14, issue 1, pp 72-83, 2014 (SCIE IF: 0.553)
- AkashDeep, Karanjeet S. Kahlon and Harish Kumar, "A Review of Scheduling Algorithms in IEEE 802.16 Networks", Egyptian Informatics Journal, Volume 15, Issue 1, pp 25-36, March 2014
- Raman Singh, Harish Kumar and R K Singla, "TOPSIS Based Multi-Criteria Decision Making of Feature Selection Technique for Network Traffic Dataset", International Journal of Engineering and Technology, Volume 5, Issue 6, Dec 2013- Jan 2014, pp 4598-4604
- Harish Kumar and Akanksha Bisaria, "Word Utterance based Technique for Search in News Videos", Panjab University Research Journal [Science], Volume 63, pp 1-7, 2013
- Harish Kumar, Harneet Arora and RK Singla, "Energy-Aware Fisheye Routing (EA-FSR) Algorithm for Wireless Mobile Sensor Networks", Egyptian Informatics Journal, Volume 14, Issue 3, November 2013, pp 235-238
- Raman Singh, Harish Kumar and R K Singla, "Issues Related To Sampling Techniques For Network Traffic Dataset", International Journal of Mobile Network Communications & Telematics (IJMNCT), Volume 3, Issue 4, August 2013, pp 75-85
- Rajni Sobti, Harish Kumar and R. K. Singla, "Review of Cooperation Schemes for MANET", Panjab University Research Journal – Science [PURJS], Volume 60, 2010, pp 47-58
- Harish Kumar and R. K. Singla, "Simulation Analysis of Address Auto-configuration Protocols for MANET with Random Waypoint Mobility Model", Journal of Computer Science, Volume 3, Issue 6, Sep-Oct, 2009, pp 1258-1266
- Harish Kumar and R. K. Singla, "Architecture for address auto-configuration in MANET based on Extended Prime Number Based Address Allocation (EPNA)", WSEAS Transactions on Computers, Volume 8, Issue 3, March 2009, pp 549-558

- Harish Kumar and R. K. Singla, "Characteristics and Complexity Comparison of Best Effort Address Auto-configuration Protocols for Mobile Ad-hoc Networks", Panjab University Research Journal – Science [PURJS], Volume 58, 2008, pp 231-237
- Harish Kumar, R.K. Singla and Siddharth Malhotra, "Issues & Trends in AutoConfiguration of IP Address in MANET", International Journal of Computers, Communications & Control, Volume III (Special Issue), 2008, pp 353-357 (SCIE IF: 0.373)
- Harish Kumar and R. K. Singla, "Simulation Analysis of Address Auto-configuration Protocols for MANET with Obstacle Mobility Model", International Journal HIT Transactions on ECCN (Electronics, Communication, Computer & Networks), Volume 2, Number 8, pp 420-426, Oct-Dec, 2007
- Harish Kumar, Karun Verma and R. K. Singla; "Performance Analysis of Routing Protocols of Wireless Ad-hoc Networks for a Conference Type Environment", Panjab University Research Journal [Science], Volume 56, 2006, pp 199-205

Technical Reports

- Harish Kumar, Parneet Kaur and Kamal Wadhera, "The Impact of CCE on Student Proficiency – a study", In collaboration with TCYonline.com, 2016 (Online at : <http://csde.puchd.ac.in/show-noticeboard.php>)

Book Chapters

- Lokesh Jain and Harish Kumar, "Mobile Networks and Indian Agricultural Sector", Book Title: Routing Protocols and Architectural Solutions for Optimal Wireless Networks and Security, Chapter 4, 2017, pp 60-79, IGI Global Publisher, DOI: 10.4018/978-1-5225-2342-0.ch004
- Monika Rani and Harish Kumar, "Wireless Networks: Greedy Routing in Vehicular Area Networks", Book Title: Routing Protocols and Architectural Solutions for Optimal Wireless Networks and Security, Chapter 5, 2017, pp 80-94, IGI Global Publisher, DOI: 10.4018/978-1-5225-2342-0.ch005
- Meghna Chaudhary and Harish Kumar, "A Framework to Rank Nodes in Social Media Graph based on Sentiment Related Parameters", ICT for Sustainable Development (ICT4SD), Vol II, Springer International Publishing, ISBN : 978-981-10-0133-8, pp 271-279, December 2015
- Kirti Thakur and Harish Kumar, "Classifying Nodes in Social Media Space", ICT for Sustainable Development, Vol I, Springer International Publishing, ISBN : 978-981-10-0129-1_30, pp 279-287, December 2015
- Sahil Kansal, Gurjeet Singh, Harish Kumar and Sakshi Kaushal, "Pricing Models in Cloud Computing", Information and Communication Technology for Competitive Strategies, ACM ISBN: 978-1-4503-3216-3/14/11, pp 1-5, November 14-16, 2014
- Manpreet Kaur and Harish Kumar, "Keyword Based Search and Ranking in NPTEL Lecture Videos", Transformations in Engineering Education (ICTIEE-2014), Natarajan, R. (Ed.), 2015, pp 79-88, ISBN 978-81-322-1930-9, DOI: 10.1007/978-81-322-1931-6_12, Publisher: Springer International Publishing
- Raman Singh, Harish Kumar and R.K. Singla, "Analyzing statistical effect of sampling on network traffic dataset", ICT and Critical Infrastructure-Vol I, ISBN: 978-3-319-03106-4 (Print), 978-3-319-03107-1(Online), Publisher: Springer International Publishing, pp 401-408
- Lokesh Jain, Harish Kumar and R.K. Singla, "Localization of Information Dissemination in Agriculture using Mobile Networks", ICT and Critical Infrastructure-Vol I, ISBN: 978-3-319-03106-4 (Print), 978-3-319-03107-1(Online), Publisher: Springer International Publishing, pp 409-415
- Raman Singh, Harish Kumar and RK Singla, "Traffic Analysis of Campus Network for Classification of Broadcast Data", Intelligent Infrastructure, ISBN: 978-1-25-906170-7, Publisher: Tata McGraw Hill, pp 163-166
- Harneet Arora, Harish Kumar and RK Singla, "Simulated Performance Comparison of Link-State Routing Algorithms in Wireless Ad-Hoc Sensor Networks", Emerging Trends & Technologies in Computer Science and Engineering, ISBN: 978-93505-9033-1, Publisher: MacMillan, pp 198-205

- Harish Kumar and RK Singla, "Proposal of Commodity Exchange Model using ICT to Reduce Corruption in NREGA", E-Governance: Techno-Behavioral Implications, ISBN: 978-93-81361-43-6, Publisher: Excel, pp 211-217

Conference

- Raman Singh, Harish Kumar and RK Singla, "Performance Analysis of an Intrusion Detection System using Panjab University Intrusion Dataset", IEEE Proceedings of 2015 RA ECS, UIET Panjab University Chandigarh, December 21-22, 2015, pp 1-6
- Kirti and Harish Kumar, "Challenges in Protecting Personated Information in Cyber space", IEEE International conference on emerging trends in network and computer communication (ETNCC), pp 167-171, May 17-20, 2015, Windhoek
- Meghna Chaudhary and Harish Kumar, "Challenges in Protecting Personnel Information in Social Network Space", IEEE International conference on emerging trends in network and computer communication (ETNCC), pp 99-104, May 17-20, 2015, Windhoek
- Lokesh Jain, Harish Kumar and R.K. Singla, "Hybrid architecture for localized agricultural information dissemination", IEEE Conference on Recent Advances in Engineering and Computational Sciences (RA ECS), March 6-8, 2014, Chandigarh, India, pp 1-3, ISBN: 978-1-4799-2290-1, DOI: 10.1109/RA ECS.2014.6799533
- Raman Singh, Harish Kumar and R.K. Singla, "Sampling Based Approaches to Handle Imbalances in Network Traffic Dataset for Machine Learning Techniques", 5th International Conference on Wireless & Mobile Networks (WiMoN-2013), June 01-02, 2013, Istanbul, Turkey, pp 37-48, DOI: 10.5121/csit.2013.3704
- Harish Kumar and RK Singla, "Impact of Electronic Content in Education: A teacher's perspective", 41st ISTE Annual National Convention (Theme: The Role and Relevance of Regulatory Bodies in Higher Education), December 16-18, 2011
- Harish Kumar and Harneet Kaur, "Issues and Trends in Wireless Sensor Networks", 25th National Convention of Computer Engineers and National Seminar on Networked Home Systems and Services (NHSS-2011), The Institution of Engineers (India), Udaipur, February 4-6, 2011, pp 13-18, ISBN: 978-81-7906-266-1
- Harish Kumar and R. K. Singla, "Issues in Mobile Ad hoc Networks", Affordable Computing, ISBN: 0-07-062171-3, Publisher: Tata McGraw Hill, pp 35-39

16. Additional Information:

- Board of Studies in CSE/IT of Panjab University (2003 - till date) and Punjab Technical University (2013 – till date)
- Board of Studies in Library Science of Panjab University (2013 – till date)
- Honorary Director, Centre for Skill Development and Entrepreneurship, Panjab University, Chandigarh (October, 2015 – Till Date)
- Warden, GC Chatterji Hall (Boys Hostel # 2), Panjab University (2011 – 2016)
- Member of Core Group of Computer Engineering Division Board of IE(I)
- Life Member of Computer Society of India
- Life member of Indian Society for Technical Education
- Life member of International Association of Engineers
- Member of various departmental committees like Board of Control, Academic/ Administrative/ Technical Committee etc.
- Programme Officer, National Service Scheme (NSS), Panjab University (2012-2016)
- Assistant Coordinator, IGNOU Study Centre, Panjab University (2012)
- Member of PU Core Team to sensitize and mobilize around 4000 participants for one month long Yoga Camp and then for International Yoga Day-2016 in Capitol Complex, Chandigarh
- Member of Academic Committee for CABA-MDTP course under NIELIT of National Council for Promotion of Urdu Language, MHRD, GoI. (2011-till date)

17. Research Students:

PhD Students: Awarded: 02

Registered: 05;

Enrolled: 03

| SN | Name | Funding Status | Enrolment Year/Status | Topic |
|----|---|----------------------------------|----------------------------|---|
| 1 | Lokesh Jain (Currently Assistant Professor, PAU) | Assistant Professor, PAU | 2010/ Awarded | Agricultural Information Dissemination System Using Mobile Networks |
| 2 | Raman Singh (Currently Assistant Professor, Thapar University) | TEQIP-II Fellowship | 2010/ Awarded | Development of Malware Detection Technique With Network Traffic Profiling |
| 3 | Veenu Mor | Computer Programmer, PU | 2011/ Synopsis Approved | Energy Efficient Routing Model for Wireless Mesh Networks |
| 4 | Sahil Kansal | Rajiv Gandhi National Fellowship | 2012/ Synopsis Approved | Optimal Pricing Framework for Cloud Computing Service Model |
| 5 | Parneet Kaur | UGC BSR Fellowship | 2015/ Synopsis Approved | Cognitive Skills Based Online Learning and Assessment Framework to Improve Educational Outcomes |
| 6 | Kushal Kanwar | Visvesvaraya Fellowship | 2015/ Synopsis Approved | A Framework for Contagion Spread in Complex Networks |
| 7 | Ravneet Kaur | Visvesvaraya Fellowship | 2015/ Synopsis Approved | Design & Development of User Profiling based Technique for Detecting Compromised Accounts in Online Social Networks |
| 8 | Navneet Kaur | TEQIP-II Fellowship | 2015 | |
| 9 | Nitish Mahajan | MeiTY Project Fellow | 2017 | |
| 10 | Chinu Singla | MeiTY Project Fellow | 2017 | |

ME Students: Thesis Completed: 16, In-Progress: Two

| SN | Name | Completion Year | Topic |
|----|------------------------|-----------------|---|
| 1 | Rajni | 2008 | Study and Analysis of Cooperation & Authentication in MANET |
| 2 | Manisha Kapoor | 2010 | Service Discovery in Mobile Ad-hoc Network using Web Service Protocol |
| 3 | Akanksha Saini | 2010 | Effect of Black Hole Attack on AODV Routing Protocol in Mobile Ad-hoc Networks (MANET) |
| 4 | Harneet Arora | 2011 | Link State Based Routing in Wireless Sensor Networks |
| 5 | Akanksha Bisaria | 2011 | Rank Based Video Retrieval Using Transcripts |
| 6 | Taranvir Kaur | 2012 | Game Theory Based Transmission Control Protocol for Adhoc Networks |
| 7 | Hardeep Singh | 2012 | Performance Analysis of Unsupervised Machine Learning Techniques for Network Traffic Classification |
| 8 | Gurvinder Singh Aulakh | 2013 | Performance Analysis of AODV, PUMA and ANTNET Routing Protocols in MANET |

| SN | Name | Completion Year | Topic |
|----|----------------|-----------------|--|
| 9 | Manpreet Kaur | 2013 | Keyword Based Search & Ranking in NPTEL Lecture Videos |
| 10 | Manish Kumar | 2013 | Offline and Online Signature Based Bot Detection |
| 11 | Jaskirat Pannu | 2014 | Dataset Labelling for Network Traffic Archive |
| 12 | Naveen Kumar | 2014 | User Perception Based Ranking in NPTEL Lecture Videos |
| 13 | Megna | 2015 | Ranking of Nodes on Social Media Platform Based on Sentiments |
| 14 | Kirti | 2015 | Classification of Social Media Users Based on Sentiment Analysis |
| 15 | Harsimran Kaur | 2016 | Trust Modeling in Social Networking Sites |
| 16 | Prabhjot Kaur | 2016 | Ranking and Clustering Social Media Users based on Temporal Analysis |
| 17 | Ramita Jindal | 2017 | Nighttime Vehicle Lamp Detection and Tracking |
| 18 | Subhani | 2017 | |