



# Dr. Kuldeep Singh

## Curriculum Vitae

### Personal Profile

I am working as Assistant Professor at Department of Computer Science, University of Delhi, Delhi-110007, India. I have completed my Ph.D. from Indian Institute of Technology (Banaras Hindu University) Varanasi. My research area includes High Utility Itemsets Mining, Pattern Mining, Social Network Analysis, and Data Mining.

### Professional Qualifications

- 2013 – 2018 Ph.D. Computer Science and Engineering, Indian Institute of Technology (BHU), (Awarded) Varanasi-221 005, India.
- 2010 Master of Technology, Computer Science and Engineering, Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India
- 2008 Master of Computer Applications, Computer Science and Engineering, Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India

### Ph.D. Thesis

- Title *Mining High Utility Itemsets with Positive and Negative Utility Values*
- Supervisor Dr. Bhaskar Biswas, Associate Professor, IIT (BHU), Varanasi.  
(Submitted– 27<sup>th</sup> April 2018, Viva-Voce– 29<sup>th</sup> Oct. 2018, Awarded – 29<sup>th</sup> Dec. 2018)

### M.Tech. Thesis

- Title *Improved FP growth algorithm for mining association rules*
- Supervisors Dr. Sajoj, Professor, Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India

### Professional Experience

- Organization **Gurgaon College of Engineering, Gurugram, Bilaspur-Tauru Road, Gurugram, Haryana-122413.**
- Job Title **Assistant Professor.**
- Duration **August 2010 – July 2013.**

Students **B.Tech & M.Tech.**  
Responsibilities **Teaching, Research & Administrative responsibilities.**

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Organization **Indian Institute of Technology (BHU), Varanasi.**  
Job Title **Research Scholar & Teaching Assistant.**  
Duration **July 2013 – October 2018.**  
Students **B.Tech & M.Tech.**  
Responsibilities **Research & Teaching.**

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Organization **Department of Higher Education Haryana.**  
Job Title **Assistant Professor.**  
Duration **February 2018 – December 2020.**  
Students **B.Sc. & BCA.**  
Responsibilities **Teaching & Research.**

### **M.Tech thesis Supervision**

Name **Gurjeet Kaur.**  
Title **Face Detection using Proposed Model.**  
Year **2011-2013.**

### **Workshop / Training / Short-term courses:**

Duration **March 20, 2017 to March 25, 2017.**  
Organization **Indian Institute of Technology (BHU), Varanasi.**  
Topic **International Training Workshop on Fuzzy Logic with Applications.**

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Duration **November 15, 2016 to November 25, 2016.**  
Organization **DST-CIMS, BHU, Varanasi.**  
Topic **Training programme on Latex and other open source software.**

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Duration **February 12, 2016 to February 18, 2016.**  
Organization **Indian Institute of Technology (BHU), Varanasi.**  
Topic **QIP- short-term course on wireless sensor networks.**

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Duration **March 25, 2015 to March 27, 2015.**  
Organization **Jointly organized by ISI, Kolkata and South Asian University, New Delhi.**  
Topic **International Workshop on Soft computing and Applications.**

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Duration **December 15, 2013 to December 23, 2013.**  
Organization **South Asian University, New Delhi.**

Topic **International Workshop on Machine Learning and Text Analytics.**

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## Awards, Fellowships, and Grants

MHRD Ph.D. Scholarship **For Ph.D. from 2013-2018, Indian Institute of Technology (BHU), Varanasi.**

UGC-NET **Qualified National Eligibility Test (NET) in June – 2012, conducted by UGC, India.**

UGC-NET/JRF **Qualified JRF in December – 2012, conducted by UGC, India.**

GATE **Qualified GATE (Computer Science & Information Technology) in 2009, conducted by IIT Roorkee, India.**

## Professional Membership

IEEE Membership ID # 94403043

ACM Membership ID # 1197007

IEI (India) Membership ID # AM1757094

IETE Membership ID # AM 500867

ICSES Membership ID # 764

CSI Membership ID # 2010000469

SIAM Membership ID # 020861933

IAENG Membership ID # 111844

SDIWC Membership ID # 21418

ISOC Membership ID # 192583

UACEE Membership ID # SNM10100059321

CSTA Membership ID # 49864921

## Services

### Journal Reviewer

Elsevier **Computer Networks, Indexed by SCI.**

Elsevier **Journal of Network and Computer Applications, Indexed by SCI.**

Elsevier **Information Processing and Management, Indexed by SCI.**

Elsevier **Journal of King Saud University - Computer and Information Sciences, Indexed by SCOPUS.**

IET **CAAI Transactions on Intelligence Technology, Indexed by SCI.**

IEEE **IEEE Access, Indexed by SCI.**

ACM **Transactions on Management Information Systems, Indexed by SCI.**

Springer **Journal of Supercomputing, Indexed by SCI.**

Springer **Applied Intelligence, Indexed by SCI.**

Springer **Artificial Intelligence Review, Indexed by SCI.**

- Springer **Journal of Ambient Intelligence and Humanized Computing**, *Indexed by SCI.*
- BMC (Part of Springer Nature) **BMC Medical Informatics and Decision Making**, *Indexed by SCI.*
- Bentham Science **Recent Patents on Computer Science**, *Indexed by SCOPUS.*
- Bentham Science **Recent Patents on Engineering**, *Indexed by SCOPUS.*

#### Conference Program Committee Member and Reviewer

- ICAICR-17 **indexing in SCOPUS**, *published by Springer.*
- NEXTCOM-17 **indexing in SCOPUS**, *published by Springer.*
- GUCON-18 **indexing in SCOPUS**, *published by IEEE.*
- ICAICR-18 **indexing in SCOPUS**, *published by Springer.*
- ICTSCI-19 **indexing in SCOPUS**, *published by Springer.*
- FSDM -19 **indexing in Ei Compendex, SCOPUS**, *published by IOS Press.*
- SNSP -19 **indexing in Ei Compendex.**
- ICAICR-19 **indexing in SCOPUS**, *published by Springer.*
- ICTSCI-2019 **indexing in SCOPUS**, *published by Springer.*
- SNSP-2019 **indexing in SCOPUS**, *published by Springer.*
- ICICV-2020 **indexing in SCOPUS**, *published by Springer.*
- FSDM -2020 **indexing in Ei Compendex, SCOPUS**, *published by IOS Press.*
- GRaCe -2020 **indexing in SCOPUS.**
- AISE-2020 **indexing in SCOPUS.**
- ICAICR-20 **indexing in SCOPUS.**

#### Technical Skills

- Programming Languages JAVA, C, C++
- Tools L<sup>A</sup>T<sub>E</sub>X, WEKA, ECLIPSE
- Operating System WINDOWS, LINUX

#### Teaching Interest (Like to teach)

- Database Management System

- Operating Systems
- Data Structure
- Design and Analysis of Algorithms
- OOPs (Object-oriented programmings)
- Data Mining
- Digital Electronics

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## Research ID

ORCID ID 0000-0001-5289-362X

Google J0tK1vwAAAAJ  
scholar ID

Scopus ID 56449820100

ResearcherID V-8371-2018

1. **Kuldeep Singh**, Harish Kumar Shakya, Abhimanyu Singh, Bhaskar Biswas, *Mining of high utility itemsets with negative utility*, **Expert Systems (wiley) (SCI)**, **Impact Factor: 1.546**, ISSN: 1468-0394, volume 36, issue 6, pages 1-23, DOI:10.1111/exsy.12296. **[Published]**
2. **Kuldeep Singh**, Shashank Sheshar Singh, Ajay Kumar, Bhaskar Biswas, *TKEH: an efficient algorithm for mining top-k high utility itemsets*, **Applied Intelligence (Springer) (SCI)**, volume 49, issue 3, pages 1078-1097, DOI: 10.1007/s10489-018-1316-x, **Impact Factor: 3.325**, ISSN: 0924-669X. **[Published]**
3. **Kuldeep Singh**, Ajay Kumar, Shashank Sheshar Singh, Harish Kumar Shakya, Bhaskar Biswas, *EHNL: An efficient algorithm for mining high utility itemsets with negative utility value and length constraints*, **Information Sciences (Elsevier) (SCI)**, **Impact Factor: 5.524**, ISSN: 0020-0255, volume 484, Pages 44-70, DOI: 10.1016/j.ins.2019.01.056 **[Published]**
4. **Kuldeep Singh**, Bhaskar Biswas, *Efficient algorithm for mining high utility pattern considering length constraints*, **International Journal of Data Warehousing and Mining (IJDWM) (IGI Global ) (SCI)**, volume 15, issue 3, pages 1-27, DOI: 10.4018/IJDWM.2019070101 **Impact Factor: 0.727**, ISSN: 1548-3924. **[Published]**
5. **Kuldeep Singh**, Shashank Sheshar Singh, Ajay Kumar, Bhaskar Biswas, *High Utility Itemsets Mining with Negative Utility Value: A Survey*, **Journal of Intelligent and Fuzzy Systems (IOS Press) (SCI)**, volume 35, issue 6, Pages 6551-6562, DOI:10.3233/JIFS-18965 **Impact Factor: 1.851**, ISSN: 1064-1246. **[Published]**
6. Shashank Sheshar Singh, Ajay Kumar, **Kuldeep Singh**, Bhaskar Biswas, *C2IM: Community based Context-aware Influence Maximization in Social Networks*, *Physica A: Statistical Mechanics and its Applications (Elsevier)(SCI)*, **Impact Factor: 2.924**, ISSN: 0378-4371, volume 514, pages 796 - 818, DOI: 10.1016/j.physa.2018.09.142. **[Published]**
7. Ajay Kumar, Shashank Sheshar Singh, **Kuldeep Singh**, Bhaskar Biswas, *Level-2 Node Clustering Coefficient-based Link Prediction*, **Applied Intelligence (Springer) (SCI)**, **Impact Factor: 3.325**, ISSN: 0924-669X, volume 49, pages 2762-2779, DOI: 10.1007/s10489-019-01413-8. **[Published]**
8. Shashank Sheshar Singh, **Kuldeep Singh**, Ajay Kumar, Bhaskar Biswas, *MIM2: Multiple Influence Maximization across Multiple Social Networks*, *Physica A: Statistical Mechanics and its Applications (Elsevier)(SCI)*, **Impact Factor: 2.924**, ISSN: 0378-4371, volume 526, pages 1-22, 2019, DOI: 10.1016/j.physa.2019.04.138. **[Published]**
9. Shashank Sheshar Singh, Ajay Kumar, **Kuldeep Singh**, Bhaskar Biswas, *LAPSO-IM: Maximizing influence in social networks using learning automata based discrete particle*

- swarm optimization*, **Applied Soft Computing (Elsevier)(SCI)**, **Impact Factor: 5.472**, ISSN: 1568-4946, volume 82, pages 105554, DOI: 10.1016/j.asoc.2019.105554, [**Published**]
10. Shashank Sheshar Singh, Ajay Kumar, **Kuldeep Singh**, Bhaskar Biswas, *IM-SSO: Maximizing influence in social networks using social spider optimization*, **Concurrency and Computation: Practice and Experience (Wiley)(SCI)**, **Impact Factor: 1.447**, ISSN: 1532-0634, volume 31, pages e5421, DOI: 10.1002/cpe.5421. [**Published**]
  11. Shashank Sheshar Singh, **Kuldeep Singh**, Ajay Kumar, Bhaskar Biswas, *ACO-IM: Maximizing influence in social networks using ant colony optimization*, **Soft Computing (Springer) (SCI)**, **Impact Factor: 3.050**, ISSN: 1432-7643, volume 24, pages 10181-10203, DOI:10.1007/s00500 – 019 – 04533 – y. [**Published**]
  12. Ajay Kumar, Shivansh Mishra, Shashank Sheshar Singh, **Kuldeep Singh**, Bhaskar Biswas, *Link Prediction in Complex Networks Based on Significance of Higher-Order Path Index (SHOPI)*, *Physica A: Statistical Mechanics and its Applications (Elsevier)(SCI)*, **Impact Factor: 2.924**, ISSN: 0378-4371, volume 545, pages 123790, DOI: 10.1016/j.physa.2019.123790. [**Published**]
  13. Ajay Kumar, Shashank Sheshar Singh, **Kuldeep Singh**, Bhaskar Biswas, *Link Prediction Techniques, Applications, and Performance: A Survey*, *Physica A: Statistical Mechanics and its Applications (Elsevier)(SCI)*, **Impact Factor: 2.924**, ISSN: 0378-4371, volume 553, pages 124289, DOI: 10.1016/j.physa.2020.124289. [**Published**]
  14. Harish Kumar Shakya, **Kuldeep Singh**, Yashvardhan Singh More, Bhaskar Biswas, *Opposition-Based Genetic Algorithm for Community Detection in Social Networks*, *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences (Springer)(SCI)*, **Impact Factor: 0.921**, ISSN: 0369-8203, volume 90, issue 4, pages 124289, DOI: 10.1007/s40010-020-00716-7 [**Published**]

## Journal (indexing in SCOPUS)

Published \ Accepted

1. **Kuldeep Singh**, Shashank Sheshar Singh, Ashish Kumar Luhach, Ajay Kumar, Bhaskar Biswas, *Mining of Closed High Utility Itemsets: A Survey*, **Recent Patents on Computer Science, (SCOPUS)**, volume-12, pages-1-8, 2019, DOI: 10.2174/2213275912666190204134822, ISSN: 2213-2759, URL = <http://www.eurekaselect.com/node/169614/article> [**Published**]
2. Shashank Sheshar Singh, **Kuldeep Singh**, Ajay Kumar, Bhaskar Biswas, *Influence Maximization on Social Networks: A Study*, **Recent Patents on Computer Science, (SCOPUS)**, volume-12, pages-1-18, 2019, ISSN: 2213-2759. DOI : 10.2174/2213275912666190417152547 [**Published**]
3. Harish Kumar Shakya, **Kuldeep Singh**, Shashank Sheshar Singh, Ajay Kumar, Bhaskar Biswas, *Identifying Community Structure in Social Networks Using Node Similarity Based Permanence Concept*, **Journal of Advanced Research in Dynamical and Control Systems (JARDCS), (SCOPUS)**, issue- 06-Special Issue, pages- 1829–1837, 2018 ISSN: 1943-023X. URL = [www.jaracs.org/backissues/abstract.php?archiveid=5662](http://www.jaracs.org/backissues/abstract.php?archiveid=5662) [**Published**]
4. Harish Kumar Shakya, **Kuldeep Singh**, Bhaskar Biswas, *Community Detection in Social Network with Regenerative Genetic Algorithm*, **International Journal of Pure and Applied Mathematics, (SCOPUS)**, volume- 118, issue- 5, pages- 570–573, 2018 ISSN: 1311-8080. URL = <https://acadpubl.eu/jsi/2018-118-5/articles/5/29.pdf> [**Published**]

## Journal (Refereed)

Published \ Accepted

1. **Kuldeep Singh**, Harish Kumar Shakya, Bhaskar Biswas, *Clustering of people in social network based on textual similarity*, **Perspectives in Science (Elsevier)**, volume- 8, pages- 570–573, 2016, ISSN: 2213-0209. DOI.10.1016/j.pisc.2016.06.023 [**Published**]
2. Harish Kumar Shakya, **Kuldeep Singh**, Bhaskar Biswas, *Community Detection in Social Networks Using Extended Self Organizing Map Algorithm*, **Journal of Advances Research in Science and Engineering (IJARSE)**, Vol. No.4, Special Issue (01), April 2015, pages- 635–642, ISSN: 2319-8354. [**Published**]
3. Harish Kumar Shakya, **Kuldeep Singh**, Bhaskar Biswas, *Community Detection Using Differential Evolution Algorithm With Multiple Objective Function*, **International Journal of Urban Design for Ubiquitous Computing (IJUDUC)**, volume- 2, No.1 (2014), pages- 7-14, ISSN: 2205-8605. [**Published**]
4. Chain Singh, **Kuldeep Singh**, Hansraj, *A Survey on Web Crawling Algorithms Strategies*, **International Journal of Research in Advent Technology (IJRAT)**, (Online available at [http://www.ijrat.org/special\\_issue\\_iaeisdise14.html](http://www.ijrat.org/special_issue_iaeisdise14.html)), Special Issue (2014), pages- 25-28, ISSN: 2321-9637. (UGC Approved) [**Published**]



## Conference

Published \ Accepted

1. Shashank Sheshar Singh, Ajay Kumar, Shivansh Mishra **Kuldeep Singh** and Bhaskar Biswas, *A Centrality Measure for Influence Maximization across Multiple Social Networks*, 3<sup>rd</sup> International Conference on Advanced Informatics for Computing Research (ICAICR-2019), 15-16 June 2019, Club Mahindra Kangaghat, NH 22, Kandaghat, Solan-173215, India Advanced Informatics for Computing Research, Springer Singapore,(Springer), Volume 2 pages- 195-207, 2019, ISBN 10.1007/978-981-15-0111-1\_18, **SCOPUS [Published]**
2. Harish Kumar Shakya, Nazeer Shaik, **Kuldeep Singh**, G R Sinha, Bhaskar Biswas, *Community Structure Identification in Social Networks Inspired By Parliamentary Political Competitions*, 3<sup>rd</sup> International Conference on Data Management, Analytics & Innovation (ICDMAI-2019) (Springer), Volume 2 pages- 445-457, 2019, ISSN 2194-5357, ISBN 978-981-13-9363-1, DOI: 10.1007/978-981-13-9364-8\_32 **SCOPUS**, Lincoln University College, Kuala Lumpur, Malaysia, 18 - 20 January, 2019. [**Published**]
3. Shashank Sheshar Singh, **Kuldeep Singh**, Ajay Kumar and Bhaskar Biswas, *CoIM : Community-based Influence Maximization in Social Networks*, International Conference on Advanced Informatics for Computing Research, Advanced Informatics for Computing Research, Springer Singapore, pages- 440-453, 2019, ISBN 978-981-13-3143-5, DOI: 10.1007/978-981-13-3140-4. **SCOPUS [Published]**
4. Shashank Sheshar Singh, **Kuldeep Singh**, Ajay Kumar, Harish Kumar Shakya and Bhaskar Biswas, *A Survey on Information Diffusion Models in Social Networks*, International Conference on Advanced Informatics for Computing Research, Advanced Informatics for Computing Research, Springer Singapore, pages- 426-439, 2019, ISBN 978-981-13-3143-5, DOI: 10.1007/978-981-13-3140-4. **SCOPUS [Published]**
5. Ajay Kumar, Shashank Sheshar Singh, **Kuldeep Singh**, Harish Kumar Shakya and Bhaskar Biswas, *An implementation of malware detection system using Hybrid C4.5 Decision Tree algorithm*, International Conference on Advanced Informatics for Computing Research, Advanced Informatics for Computing Research, Springer pages- 579-589, 2019, ISBN 978-981-13-3143-5, DOI: 10.1007/978-981-13-3140-4. **SCOPUS [Published]**
6. **Kuldeep Singh**, Harish Kumar Shakya, Bhaskar Biswas, *An Efficient Approach to Discovering Frequent Patterns from Data Cube using Aggregation and Directed Graph*, 6th International Conference on Computer and Communication Technology, ICCCT-2015, September 25-27, 2015, pp. 31-35, MNNIT Allahabad, 10.1145/2818567.2818573, **SCOPUS** ISBN: 978-1-4503-3552-2. [**Published**]

## Book Chapters

1. **Kuldeep Singh**, Harish Kumar Shakya, Bhaskar Biswas, *Discovery of Multi-frequent Patterns Using Directed Graph*, Emerging Research in Computing, Information, Communication and Applications (ERCICA 2015), *Springer*, volume 2, pp 153-162, 2015, ISBN: 978-81-322-2552-2, DOI: 10.1007/978 – 81 – 322 – 2553 – 9\_15, 2015, **SCOPUS [Published]**
2. **Kuldeep Singh**, Harish Kumar Shakya, Bhaskar Biswas, *Frequent Patterns Mining from Data Cube using Aggregation and Directed Graph*, Advances in Intelligent Systems and Computing, *Springer* pp 167-177, 2016, ISBN: 978-81-322-2695-6, DOI:10.1007/978 – 81 – 322 – 2695 – 6\_15, 2016, **SCOPUS [Published]**
3. Harish Kumar Shakya, **Kuldeep Singh**, Bhaskar Biswas, An Efficient Genetic Algorithm for Fuzzy Community Detection in Social Network Advanced Informatics for Computing Research, *Springer* pp- 63-72, 2017, ISBN: 978-981-10-5779-3, DOI: 10.1007/978 – 981 – 10 – 5780 – 9\_6, 2017, **SCOPUS [Published]**
4. **Kuldeep Singh**, Harish Kumar Shakya, Bhaskar Biswas, *Happiness Index in Social Network*, Advanced Informatics for Computing Research, *Springer* pp- 261-270, 2017, ISBN: 978-981-10-5779-3, DOI: 10.1007/978 – 981 – 10 – 5780 – 9\_24, 2017, **SCOPUS [Published]**
5. Shashank Sheshar Singh, Ajay Kumar, Shivansh Mishra, **Kuldeep Singh**, Bhaskar Biswas, *Influence Maximization in Social Networks*, Optimization in Large Scale Problems, *Springer* pp- 255-267, 2019, ISBN: 978-3-030-28565-4, DOI: 10.1007/978 – 3 – 030 – 28565 – 4\_22, 2019, **SCOPUS [Published]**