

Dr. Rajni Jain

Dr. Rajni Jain obtained the Ph.D. degree in Computer Science from Jawaharlal Nehru University in 2005. The title of her thesis was “Rough set based Decision Tree Induction for Data Mining”. Rajni Jain obtained her M.Sc. degree in the discipline of Computer Application from P.G. School, Indian Agricultural Research Institute in 1991 with a gold medal for her outstanding academic performance. Earlier in 1988, Rajni Jain obtained her B.Sc. degree in Physics Hons. From Hansraj College, Delhi University. Rajni joined as Scientist (Computer Applications) in July 1996 at National Institute of Agricultural Economics and Policy Research (NIAP), India and presently working as Principal Scientist there. Besides, Rajni Jain is faculty member in Post Graduate School, ICAR-IARI for teaching and guiding students of M.Sc. and Ph.D. in Computer Application.



Rajni Jain made important and useful contributions as an agricultural research scientist by developing methodology for development of optimal crop plans and demonstrating it with the help of case studies of some states; data management framework for survey data of farmers; development of decision support systems; information system design and development; developing and maintaining an online information system of agricultural economists (www.agrieconet.nic.in). Rajni Jain has been managing IT requirements of ICAR-NIAP since 1996. Rajni Jain has organized four 21 days training programmes and many short duration training programmes for the capacity development of National Agricultural Research system. Her research interests include applications of data mining techniques and development of decision support systems for agriculture domain, development of optimum models for crop planning at regional level, total factor productivity in agriculture. Rajni Jain has contributed several research papers in national / international journals / conferences / workshops / seminars. Some publications in recent years are listed below.

Publications during Last 5 Years

Sonal Sharma, Rajni Jain, Prateek Mittal, 2016, AGRETL: Tool for ETL Activities for Agriculture Domain, In: Proceedings of 3rd International Conference on “Computing for Sustainable Global Development”, 10th INDIACom; INDIACom-2016; IEEE Conference ID: 37465, Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA), 16th - 18th March, pp 5506-5512, ISSN 0973-7529; ISBN 978-93-80544-20-5

Rajni Jain, M. Surchand Singh, Alka Arora, Sudeep Marwaha, 2016, Software Process Model for Agricultural Productivity Analysis, In: Proceedings of 3rd International Conference on “Computing for Sustainable Global Development”, 10th INDIACom; INDIACom-2016; IEEE Conference ID: 37465, Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA), 16th - 18th March, pp 5550-5554, ISSN 0973-7529; ISBN 978-93-80544-20-5

Alka Arora, Subhash chandra, Amrender Kumar, Rajni Jain, Sudeep Marwaha, 2016, Online Software for Forewarning of Onion Thrips, In: Proceedings of 3rd International Conference on “Computing for Sustainable Global Development”, 10th INDIACom; INDIACom-2016; IEEE Conference ID: 37465, Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA), 16th - 18th March, pp 5559-5561, ISSN 0973-7529; ISBN 978-93-80544-20-5

Usha Ahuja, D.B.Ahuja, Rajni Jain, Digvijay Singh Negi, Prem Narayan, 2016, Determinants of adoption of IPM in cauliflower cultivation in Haryana State, In: Proceedings of 3rd International Conference on “Computing for Sustainable Global Development”, 10th INDIACom; INDIACom-2016; IEEE Conference ID: 37465, Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA), 16th - 18th March, pp 5615-5620, ISSN 0973-7529; ISBN 978-93-80544-20-5.

Rajni Jain, S S Raju, Kingsly I., S K Srivastava, Amrit Pal Kaur, Jaspal Singh, Manual on Methodological Approach for Developing regional crop plan under the ICAR Social Science Network Project, Regional Crop Planning for improving Resource use Efficiency, Published by ICAR-NIAP, New Delhi

Rajni Jain, S S Raju (2016), Decision Support System in Agriculture: Quantitative Analysis (Ed.), Agrotech

Publishing Academy, Udaipur ISBN 978-81-8321-395-0

Raju S S, Rajni Jain, Usha Ahuja), 2016, “Analytical Techniques for decision making in agriculture (Ed.)”, Astral International P Ltd. ISBN 978-93-5124-766-1

Ahuja U. Rani, Jain R., Chauhan S., Amarjit, Narayan P., Chaudhary K. R. (2015) Socio-Economic Impact of Mobile Phone in Agriculture: A Case Study of Karnal District. Proceedings of the 2nd International Conference on Computing for Sustainable Global Development, 11-13 March, pp.5.84-5.88 ISSN 0973-7529; ISBN 978-93-80544-14-4

S.S. Raju, Ramesh Chand , S.K. Srivastava, Amrit Pal Kaur, Jaspal Singh, Rajni Jain, Kingsly Immanuelraj and Parminder Kaur, 2015, Comparing Performance of Various Crops in Punjab Based on Market and Economic Prices and Natural Resource Accounting, Agricultural Economics Research Review, Vol. 28 (Conference Number) 2015 pp 189-198, DOI: 10.5958/0974-0279.2015.00034.8

S.K. Srivastava, Ramesh Chand, S.S. Raju, Rajni Jain, Kingsly I., Jatinder Sachdeva, Jaspal Singh and Amrit Kaur, Unsustainable Groundwater Use in Punjab Agriculture: Insights from Cost of Cultivation Survey , Ind. Jn. of Agri. Econ. Vol.70, No.3, July-Sept. 2015 pp 365-378

Sonal Sharma and Rajni Jain, 2015, Conceptual and Logical Models for Performing Extraction, Transformation and Loading Process in a Data Warehouse, International Journal of Research in Engineering and Applied Sciences, VOLUME 5, ISSUE 6 (June, 2015), pp 243-247 (ISSN 2249-3905)

Arora A. , Marwaha S. , Saha L. K., Jain R. and Jha, A. K. (2015) Online System for Integrated Pest Management on Tomato in Agridaksh. Proceedings of the 2nd International Conference on Computing for Sustainable Global Development, 11-13 March, pp.5.84-5.88 ISSN 0973-7529; ISBN 978-93-80544-14-4

Usha Ahuja, Rajni Jain, Anjani kumar, Dharminder Choudhary and Amarjit Singh(2015) Women Empowerment in Agriculture: A comparative study of developed and under developed states of India in proceedings of XII Agricultural Science Congress on Sustainable Livelihood Security for Smallholder Farmers held at National Dairy Research Institute, Karnal, Haryana from 3rd - 6th February 2015

Arora A., Zawanmard M. Z., Rajni Jain, Marwah S. and Bhardwaj A., 2014. Web based Fuzzy CMeans Clustering Software, Journal of the Indian Society of Agricultural Statistics, 68(1): pp93-100

Shinoj P., Anjani Kumar, Shiv Kumar and Rajni Jain, 2014. A Partial Equilibrium Model for Future Outlooks on Major Cereals in India. Margin-The Journal of Applied Economic Research, 8:2(2014):155-192.

Sonal Sharma and Rajni Jain, 2014. Enhancing Business Intelligence using Data Warehousing: A Multi Case Analysis, International Journal of Advance Research in Computer Science and Management Studies, Volume 1, Issue 7, December 2013 ISSN: 2321-7782 (available online at www.ijarcsms.com)

Jain R., Ahuja U., Chand R., Bala R. and Kumar A. (2014) ICT and agricultural knowledge dissemination at farm level in Eastern India. Proceedings of the 9th Conference of the Asian Federation for Information Technology in Agriculture on “ICT’s for future Economic and Sustainable Agricultural Systems”, Organised During 29 September to 2 October 2014, ECU, Perth, Australia, pp. 236-245.

Rajni Jain, Sarita Kumari, Alka Arora and Sudeep, 2014. Malmsoft: An online Software for Computing Total Factor Productivity using Malmquist Index. In Proceedings of the International Conference on Computing for Sustainable Global Development” 5-7 March, 2014, Published by IndiaCom 2014; ISSN 0973-7529; ISBN 978-93-80544-10-6, pp 539-544

Rajni Jain, A K M Samimul Alam and Alka Arora, 2013. WBSTFP: Software for TFP Computation in Agriculture. Journal of the Indian Society of Agricultural Statistics 67(3) 381-391

Rajni Jain, Satma MC, Alka Arora, Sudeep Marwaha and RC Goyal, 2013. Online Rule Generation Software Process Model. BIJIT - BVICAM’s International Journal of Information Technology Bharati Vidyapeeth’s Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA) Copy Right © BIJIT – 2013; January – June, 2013; Vol. 5 No. 1; ISSN 0973 – 5658 505 pp 505-511

- Anjani Kumar and Rajni Jain, 2013. Growth and Instability in Agricultural Productivity: A District Level Analysis. *Agricultural Economics Research Review*, Vol 26 (Conference Number) 2013 pp 31-42
- Rajni Jain and Amarendra Kumar Mishra, 2013. Decision Tree and its Application in Bioinformatics. In: *Bioinformatics in Agriculture, Tools and Application*. Eds M Balakrishnan S Dam Rao pp 131-141.
- Usha Ahuja, Rajni Jain, Anjani kumar, Dharminder Choudhary and Amarjit Singh (2013) Measurement of Women Empowerment in Agriculture in East India- Computation of Women Empowerment in Agriculture Index (WEAI) proceedings of Sixteenth Annual Conference of the Society of Statistics, Computer and Applications 24 – 26 February 2014 held at Bhagat Phool Singh Mahila Vishwavidyalaya Khanpur Kalan, Sonapat, Haryana-131305.
- Jain Rajni and Alka Arora, 2013. Approach for Mining Multiple Patterns form Clusters. *Journal of Indian Society of Agricultural Statistics* 67(1): 33-42
- Jain Rajni, Anjani Kumar, Usha Rani Ahuja, Umesh Singh Yadav, Saumya Jain and Saloni Jain. 2013. Building and Evaluating Decision Tree Classifier for Identifying Beneficiaries of MGNREGS. In: *Proceedings of the 7th National Conference on Computing for Nation Development*, Published by Director, BVICAM, ISSN 0973-7529, ISBN 978-93-80544-06-9, pp. 39-46
- Ruhil Anand P. and Rajni Jain. 2013. Data Mining: A Path to Discover Knowledge. In: *Data Mining Techniques for Farm Animal Management*, Agrotech Publishing Academy, Udaipur, Rajasthan, ISBN 978-81-8321-293-9, pp. 13-25.
- Rajni Jain, 2013. Classification using Decision Trees, In: *Data Mining Techniques for Farm Animal Management*, Agrotech Publishing Academy, Udaipur, Rajasthan, ISBN 978-81-8321-293-9, pp. 56-63.
- Rajni Jain, 2013. Association Rule Mining, In: *Data Mining Techniques for Farm Animal Management*, Agrotech Publishing Academy, Udaipur, Rajasthan, ISBN 978-81-8321-293-9, pp. 64-71.
- Rajni Jain, Samimul Alam A K M, Arora Alka. Software Process Model for Total Factor Productivity of Agriculture. In: *5th Indian International conference on Artificial intelligence*, held at Siddya Institute of Technology (SIT), Tumkur, Karnataka during 14-16 December, 2012
- Anjani Kumar, Ramesh Chand, K M Singh, R K P Singh, Parmod Gandhi, Usha Rani Ahuja, Rajni Jain, 2012. *Susari (Bihar)- A Village Profile*, Published by NCAP, New Delhi.
- Jain Rajni, Usha Rani Ahuja and Anjani Kumar, 2012. ICTs and Farm Women: Access Use and Impact. *Indian Journal of Agricultural Economics*, 67(3):385-394
- Rajni Jain, Satma M C, Alka Aroa, Sudeep Marwaha and R C Goyal. 2012. Software Process Model for Online Rule Generation Using Decision Tree Classifier. In: *Proceedings of 6th National Conference on Computing for Nation Development*, New Delhi, Ed: M.N. Hoda, ISBN:978-93-80544-03-8, pp. 309-316
- Rajni Jain, Raj Kumar Rai and Anjani Kumar. 2012. ETL Model for Integration of Heterogeneous Agricultural Socio-Economic Data Sources. In: *Proceedings of 6th National Conference on Computing for Nation Development*, New Delhi, Ed: M.N. Hoda, ISBN:978-93-80544-03-8, pp. 7-13
- Ahuja Usha, Anjani Kumar, Rajni Jain, Susmita Panda and Neha Atri. Farm women's access to resources and participation in decision making. In: *Session on Access to Assets, Resources and Knowledge of Global Conference on Women in Agriculture* organized jointly by ICAR and Asia Pacific Association of Agricultural Research Institutions with support from GFAR under Gender in Agricultural Partnership during 13-15 March 2012, NASC Complex, New Delhi, India
- Anshu Bharadwaj, Shashi Dahiya and Rajni Jain. Discretization based Support Vector Machine (D-SVM) for Classification of Agricultural Datasets. *International Journal of Computer Applications* 40(1):8-12, February 2012. Published by Foundation of Computer Science, New York, USA
- Jain R., Arora A. and Ahuja U. (2012) Knowledge acquisition using rough set based post- processing of clusters:

Characterizing ICT access to women farmers. *Statistics and Applications*, 10: Nos. 1&2 (New Series), pp. 27-43.

Rajni Jain, Satma MC, Alka Arora, Sudeep Marwaha, R C Goyal. Software Process Model for Online Rule Generation Using Decision Tree Classifier. In: 6th National Conference on Computing for Nation Development (Indiacom 2012), organised by and held at Bhatiya Vidyapeeth, Paschim Vihar, New Delhi during 23-24 February, 2012

Rajni Jain, Raj Kumar Rai and Anjani Kumar. ETL Model for integration of heterogeneous agricultural socio-economic data sources. In: 6th National Conference on Computing for Nation Development (Indiacom 2012), organised by and held at Bhatiya Vidyapeeth, Paschim Vihar, New Delhi during 23-24 February, 2012

Jain Rajni and S S Raju 2011. Credit Overdue and Farmers' Perceptions on Agricultural Debt Waiver and Debt Relief Scheme, *Journal of Agricultural Development and Policy*, Vol. 21 (2):73-86, 2011

Rajni Jain, Raj kumar Rai, Anjani Kumar, P Shinoj and Shiv Kumar. 2011. Software Model for Online Management of Agricultural Socio-Economic Data. In: *Emerging Trends and Technologies in Data Management*. Ed. P Garg. Macmillan Publishers India Ltd, pp. 85-93

Rajni Jain, Samimul Alam A K M, Arora Alka. 2011. Software Process Model for Total Factor Productivity of Agriculture. In: *Proceedings of 5th Indian International conference on artificial intelligence*, Bangalore ISBN: 978-0-9-9727412-8-6, pp.1335-1352

Rajni Jain. 2011. Dimensionality Reduction for Classification using Rough Sets (abstract), *Journal of the Indian Society of Agricultural Statistics* 65(1):61, 2011

Rajni Jain and Amarender Kumar Mishra. 2011. Learning rules using Decision Tree Induction for Prediction of Mature RNA (abstract), *Journal of the Indian Society of Agricultural Statistics* 65(1): 46, 2011

Alka Arora, Rajni Jain and Suchita Upadhyaya. 2011. Blending Rough sets and clustering methods for discovery of patterns (abstract). In: *Journal of the Indian Society of Agricultural Statistics* 65(1):62, 2011

Alka Arora, Maedeh Zirak javanmard and Rajni Jain. 2011. Online Software for Fuzzy Clustering. In: 65th Conference of Indian Society of Agricultural Statistics, NDRI, Karnal 3-5th December 2011.

Rajni Jain, Raj kumar Rai, Anjani Kumar, P Shinoj and Shiv Kumar. Software Model for Online Management of Agricultural Socio-Economic Data. In: 4th International conference on Data Management", Organised by IMT Ghaziabad, 17-19 November 2011.

Rajni Jain. Classification using decision tree induction. In: 4th International conference on Data Management", Organised by IMT Ghaziabad, 17-19 November 2011.

Rajni Jain, Raj Kumar Rai, Anjani Kumar, P. Shinoj and Shiv Kumar (2010), On-line database repository: Case study of agricultural and socio-economic datasets. In: *Innovations and Advances in Data Management*, Eds: Poonam Garg, Sushmi Routry, Madan Gupta, Macmillan Publishers India Ltd., pp. 86-92

Shuchita Upadhyaya, Alka Arora and Rajni Jain, 2009. Reduct Driven Pattern Extraction from Clusters, *International Journal of Computational Intelligence Systems*, 2(1):10-16

Surajit Chattopadhyay, Rajni Jain, Goutami Chattopadhyay, 2009, Estimating potential evapotranspiration from limited weather data over Gangetic West Bengal, India: a neurocomputing approach, *Meteorological Applications*, Royal Meteorological Society, 16:403-411.

A Arora, S Upadhyaya and R Jain, 2009, Integrated approach of reduct and Clustering for mining patterns from Clusters, *Information Technology Journal* 8(2):173-180

Jain, Rajni, Rachna Sethi, Alka Arora and S S Raju (2009). Heuristic Knowledge Discovery using Genetic Algorithm and Rough Set Theory. In: *Advances in Data Management*, Eds: Jayanthi Ranjan, Poonam Garg, N S Chaudhari, Madan Gupta, Macmillan Publishers India Ltd., pp. 157-166

Jain Rajni and Vandana Kalra. 2009. Variable Precision Rough Set based Decision Tree Model. In: *Proceedings*

of the 3rd National Conference on Computing for Nation Development, Ed: M. N Hoda, Bharti Vidyapeeth's Institute of Computer Applications and Management, New Delhi, pp. 673-678.

Jain Rajni, Sonajharia Minz and RamaSubramanian V (2009). Machine Learning for Forewarning Crop Diseases. Journal of the Indian society of Agricultural Statistics, 63(1):97-107

Jain Rajni, Arora Alka, Raju, S.S.(2009). A Novel Adoption Index of Selected Agricultural Technologies: Linkages with Infrastructure and Productivity, Agricultural Economics Research Review, Vol. 22 January-June 2009 pp 109-120.

Arora Alka, Upadhyaya Shuchita, Jain Rajni (2009), Post Processing of Clusters for Pattern Discovery: Rough Set Approach, Journal Indian Society of Agricultural Statistics ,63(2), 181-188.

