Baljeet Kaur

Professor

Department of Computer Science, Hansraj College,

Delhi University, Delhi, India, 110007

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Education

2017-19

> **Post Doctorate**
>
> School of Computer and Systems Sciences, Jawaharlal Nehru University, Delhi, India
>
> Topic: Speech as a Biomarker for Depression Detection and Monitoring

2009

> **Ph. D. Computer Science**
>
> Department of Computer Science and Applications,
>
> Utkal University, Bhubaneswar, Orissa, India
>
> Dissertation Title: Pattern Recognition of Inscriptions using Fuzzy Neural Networks

1999-2000

> **Junior Research Fellow**
>
> Department of Computer Science and Applications
>
> Utkal University, Bhubaneswar, Orissa, India

1994-97

> **Masters in Computer Applications**
>
> Department of Computer Science and Applications,
>
> Utkal University, Bhubaneswar, Orissa, India
>
> Industrial Project: Database Management of the Census, National Informatics Centre (NIC), Bhubaneswar, Orissa, India

1990-93

> **Bachelor of Science (Honors) in Mathematics**
>
> Department of Mathematics,
>
> Miranda House, University of Delhi, Delhi, India

Employment

2022-present	Professor
	Department of Computer Science, Hansraj College, Delhi University, Delhi, India
2017-2022	Associate professor
	Department of Computer Science, Hansraj College, Delhi University, Delhi, India
2005-2017	Assistant professor (Permanent)
	Department of Computer Science, Hansraj College, Delhi University, Delhi, India
2003-2005	Assistant professor (Temporary)
	Department of Computer Science, Hansraj College, Delhi University, Delhi, India
2002-2003	Assistant professor (Adhoc) Department of Computer Science, Hansraj
	College and other constituent colleges, Delhi University, Delhi, India
2000-2002	Instructor

Education and Research, Infosys Technologies Ltd., Bhubaneswar, Orissa, India

1997-1999   Lecturer
             Computer Science, Silicon Institute of Technology, Bhubaneswar, Orissa, India

Teaching:

At undergraduate level: The class room teaching is complemented with regular quizzes and MCQs. The practical components are supervised in the lab classes. Assignments and test evaluations are a regular feature. The following papers have been taught by me over a period of time: Programming Fundamentals, Theory of Computation; Operations Research; Database Management System; Operating Systems; System Software; Digital Electronics; Data Mining, XML, Java, C++. Python, Client Server programming using HTML, CSS, PHP, Machine Learning, Data Analysis and others as per requirement.

At graduate level: Invited as a visiting faculty at the post graduate department of Computer Science, University of Delhi for teaching the following papers to the masters students: Automata Theory and XML Databases. I have also conducted a special lecture on Support Vector Machines at the post graduate department of University of Delhi.

Ph. D. coursework: Resource person for Ph.D. course on Research Methodology**,** Department of Computer Science, University of Delhi.

Machine Learning Workshops: Under the flagship of the Student Learning Center at Hansraj College, I have conducted machine learning workshops for the students of i) Zoology and Life Sciences and ii) Physics and Electronics. I have also conducted machine learning courses for iii) department of Economics and iv) Physical Sciences.

Faculty Development Programme: Conducted a two week online interdisciplinary faculty development programme on Python Programming for faculty pan-India. Faculty from Humanities, Commerce, Management and Science streams successfully attended the program and learnt the computational potential of their subjects through Python programming. This is module I of a three module course. Module II is scheduled to be held in June 2023.

Research Publications (Journals)

- Pooja Arora, Neha Periwal, Yash Goyal, Vikas Sood and **Baljeet Kaur**. iIL13Pred: Improved prediction of IL-13 inducing peptides using popular machine learning classifiers, BMC Bioinformatics (2023), IF (3.5) https://doi.org/10.1186/s12859-023-05248-6
- Periwal, Neha, Shravan B. Rathod, Sankritya Sarma, Gundeep S. Johar, Avantika Jain, Ravi P. Barnwal, Kinsukh R. Srivastava, **Baljeet Kaur**, Pooja Arora, and Vikas Sood. Time series analysis of SARS-CoV-2 genomes and correlations among highly prevalent mutations. Microbiology Spectrum (2022), IF (9.043) https://doi.org/10.1128/spectrum.01219-22
- **Baljeet Kaur**, S Rathi, RK Agrawal, Enhanced depression detection from speech using Quantum Whale Optimization Algorithm for feature selection, Computers in Biology and Medicine, 2022, IF(6.698), https://doi.org/10.1016/j.compbiomed.2022.106122
- Roopali Rajput, Neha Periwal, Chitranjan Mukherjee, Priyanshu Verma, Jitender Sharma, Pooja Arora, **Baljeet Kaur**, Vikas Sood, Novel insights into host responses to Japanese Encephalitis Virus infection: Reanalysis of public transcriptome and microRNAome datasets, Virus Research, 2022, IF (6.286), https://doi.org/10.1016/j.virusres.2022.198887

- Neha Periwal, Priya Sharma, Pooja Arora, Saurabh Pandey, **Baljeet Kaur**, Vikas Sood, A novel binary *k*-mer approach for classification of coding and non-coding RNAs across diverse species, Biochimie, 2022, IF (4.372), https://doi.org/10.1016/j.biochi.2022.04.012
- Parul Agarwal, RK Agrawal, **Baljeet Kaur**, Multi-objective particle swarm optimization with guided exploration for multimodal problems, Applied Soft Computing, 2022, IF(8.263), https://doi.org/10.1016/j.asoc.2022.108684
- Swati Rathi, **Baljeet Kaur**, R. K. Agrawal, Selection of Relevant Visual Feature Sets for Enhanced Depression Detection using Incremental Linear Discriminant Analysis, Multimedia Tools and Applications, 2022 (IF 2.577), https://doi.org/10.1007/s11042-022-12420-2
- R. K. Agrawal, **Baljeet Kaur**, Parul Agarwal, Quantum inspired Particle Swarm Optimization with guided exploration for function optimization, Applied Soft Computing, 2021 (Impact factor: 8.263), https://doi.org/10.1016/j.asoc.2021.107122
- R. K. Agrawal, **Baljeet Kaur**, S. Sharma, Quantum based Whale Optimization Algorithm for wrapper feature selection, Applied Soft Computing, 2020 (Impact factor: 8.263), https://doi.org/10.1016/j.asoc.2020.106092
- A Gupta, R. K. Agrawal, J.S.Kirar, **Baljeet Kaur**, W Ding, CT Lin, A hierarchical meta-model for multi-class mental task based brain-computer interfaces Neurocomputing, 2019 (Impact factor: 5.779), https://doi.org/10.1016/j.neucom.2018.07.094
- Manju Sardana, R. K. Agrawal, **Baljeet Kaur**, A Hybrid of Clustering and Quantum Genetic Algorithm for Relevant Genes Selection for Cancer Microarray data, International Journal of Knowledge-based and Intelligent Engineering Systems 20: 161–173 (2016), https://doi.org/10.3233/KES-160341
- Manju Sardana, R. K. Agrawal, **Baljeet Kaur**: An incremental feature selection approach based on scatter matrices for classification of cancer microarray data. Int. J. Comput. Math. 92(2): 277-295 (2015)) (Impact factor: 1.931), https://doi.org/10.1080/00207160.2014.905680
- Akshansh Gupta, R. K. Agrawal, **Baljeet Kaur**: Performance enhancement of mental task classification using EEG signal: a study of multivariate feature selection methods. Soft Comput. 19(10): 2799-2812 (2015) (Impact factor: 3.737), https://doi.org/10.1007/s00500-014-1443-1

Publications(Peer Reviewed Conferences)

- Rathi, Swati, **Baljeet Kaur**, and R. K. Agrawal. "Bi-stage QWOA-Based Efficient Feature Selection for Enhanced Depression Detection Based on Facial Cues." In Proceedings of the 14th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2022), pp. 248-264. Cham: Springer Nature Switzerland, 2023.
- S. Rathi, **Baljeet Kaur**, R. K. Agrawal, Enhanced Depression Detection from Facial Cues Using Univariate Feature Selection Techniques, International Conference on Pattern Recognition and Machine Intelligence, 2019, 22-29
- Manju Sardana, R. K. Agrawal, **Baljeet Kaur**: Clustering in Conjunction with Quantum Genetic Algorithm for Relevant Genes Selection for Cancer Microarray Data. PAKDD Workshops : 428-439(2013)
- Akshansh Gupta, R. K. Agrawal, **Baljeet Kaur**: A three phase approach for mental task classification using EEG. ICACCI: 898-904(2012)
- Manju Sardana, **Baljeet Kaur**, R. K. Agrawal: Performance Evaluation of Ranking Methods for Relevant Gene Selection in Cancer Microarray Datasets. MICAI (1): 407-418(2012)

- Mohanty S, **Baljeet Kaur**, Samal A., Pattern recognition of Brahmi script from noisy old stone inscriptions, 2nd National conference on Recent advances and future trends in IT, Punjab Universty, Patiala, 2007
- Mohanty S and **Baljeet Kaur**, Extraction of Brahmi Script from partially distorted stone inscription, International Conference on Speech and Language technology, CDAC Noida, 2004
- Mohanty, S., Behra, HK, **Baljeet Kaur**, Mohapatra A., Weighted Automata approach for recognition of handwritten Oriya characters. Twelfth International Conference on Advances in Computing and Communications, ADCOM-2004, 15-18 December, 2004
- Amlan Sahoo, **Baljeet Kaur**, Rakesh Agarwal, A componentized approach towards applying Sun technology to MVC framework for WAP applications, In proceedings of National conference on Mobile computing, Hyderabad, 11-12 December, 122-130 , Universities Press, 2002, ISBN 8173714045, 9788173714047
- **Baljeet Kaur**, Algorithm for restoration of coloured images, in the proceedings of first international conference on Information Technology, Bhubaneswar, India, (27-30)1999