

ROLI BANSAL

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EDUCATIONAL QUALIFICATIONS

- PhD in Computer Science from Dept. of Computer Science, University of Delhi in 2013
- MCA from Rani Durgavati Vishwavidyalaya, Jabalpur in 1997

CAREER PROFILE

- Assistant Professor, Keshav Mahavidyalaya from August 1997 till November 2011
- Associate Professor, Keshav Mahavidyalaya from November 2011 till date

COURSES TAUGHT

- **BSc Mathematical Science** – Python Programming, Computer Fundamentals, Data Structures, DBMS
- **BSc Physical Science** - Programming Fundamentals, Data Structures, DBMS
- **BSc (H) Computer Science** – C++Programming, Data Structures, Algorithms, DBMS, Programming Paradigms, Data Analysis and Visualization
- **B Tech Computer Sc/BIS/BIT** - Data Structures, Final Year Research Projects
- **PGDCA** - File Processing, Visual Basic, Multimedia Systems and Applications

AREAS OF INTEREST

- Image Processing
- Image Classification
- Biometrics
- Computational Intelligence
- Security
- Data Structures
- Computer Forensics
- Machine Learning

ADMINISTRATIVE ASSIGNMENTS

- Currently in 2023-2024, working as Convener/Nodal Officer Central Admission Committee, Teacher-In-Charge Hindi Department, Member, Fee Concession Committee, Member Library Committee, Member, Hindi Rajbhasha Committee, Member, Website Monitoring Committee, Nodal Officer for J&K students, Convener, BLITZ Society of Department of Computer Science, Convener Time Table Committee. Department of Computer Science, Member, Moderation Committee for IA, Department of Computer Science,

- In 2022-2023, worked as Secretary, College Staff Council, Convener, BLITZ Society of Department of Computer Science, Member Central Time Table Committee, Member, Central Admission Committee, Member, Hindi Rajbhasha Committee, Member, Website Monitoring Committee, Member, Central Monitoring Committee for IA, Alumni Coordinator, Dept of Computer Science, Nodal Officer for J&K students
- In 2021-2022, worked as Convener, Student Aid Fund Committee, Member Central Time Table Committee, Alumni Coordinator, Dept of Computer Science, Convener, E - Blitzine 21-22 (Annual Magazine of Dept. of Computer Science), Nodal Officer for J&K students
- Worked as Member, Internal Quality Assurance Cell (IQAC) of the college and Convener, Central Monitoring Committee for IA, during 2019-2021
- Worked as Deputy Superintendent (DS) and Nodal Officer (Keshav Mahavidyalaya) for DU Open Book Exam (OBE), December 2020
- Worked earlier in most college committees like Anti Ragging Committee, Academic Affairs Committee, Library Committee, Central Admission Committee, Proctorial Committee, Attendance Committee, Central Time Table Committee, Cultural Committee, Annual day Committee, Sports Committee, Cafeteria Committee, Stock Verification Committee, Nodal Officer for Redressal of Grievances of Girl Students, Coordinator, Blitz Computer Society, Grievance Redressal Cell, etc.
- Worked as Member, Committee for curriculum design of 'Digital Image Processing' (BSc Hons Computer Science, University of Delhi)
- Worked as Teacher-in-Charge of Department of Computer Science from April 2007 to March 2009
- Worked as a member of the Governing Body of the college as a teacher representative during December 2007 to December 2008

PUBLICATION PROFILE

Publications in International Journals:

- Gupta B., Sharma R., Bansal R., Soni G. K., Negi P., Purdhari P. (2023). An Adaptive System for Predicting Student Attentiveness in Online Classrooms. Indonesian Journal of Electrical Engineering and Computer Science, 31(2): 1136-1146. <http://doi.org/10.11591/ijeecs.v31.i2.pp1136-1146>
- Bedi P., Bansal R., Sehgal P. (2013). Using PSO in a spatial domain based image hiding scheme with distortion tolerance. Computers & Electrical Engineering, Elsevier, 39(2): 640-654. 10.1016/j.compeleceng.2012.12.021
- Bansal R., Sehgal P., Bedi P. (2012). Securing fingerprint images through PSO based robust facial watermarking. International Journal of Information Security and Privacy (IJISP), IGI Global, 6(2), 34-52. 10.4018/jisp.2012040103
- Bansal R., Sehgal P., Bedi P. (2012). Securing fingerprint images using PSO based wavelet domain watermarking. Information Security Journal, A Global Perspective, Taylor and Francis, 21(2), 88-101. 10.1080/19393555.2011.642066
- Bansal R., Sehgal P., Bedi P. (2011). Minutiae Extraction from Fingerprint Images- a Review. International Journal of Computer Science Issues (IJCSI), 8(5), 74-85. arXiv:1201.1422
- Bansal R., Sehgal P., Bedi P. (2010). Effective Morphological Extraction of True Fingerprint Minutiae based on the Hit or Miss Transform. International Journal of Biometrics and Bioinformatics (IJBB), 4(2), 71-85. <https://www.researchgate.net/publication/44797156>

Publications in International Conferences

- Singh P., Sehgal P, Bansal R. (2022). An image mining approach to classify dental images into normal and caries-infected using a reduced textural feature set, Twelfth International Conference on Recent Trends in Communication and Computer Networks (COMNET 2022, Chennai), proceedings published by Grenze International Journal of Engineering and Technology, 2023, vol. 9, 468-475. Grenze ID: 01.GIJET.9.1.538_1
- Bansal, R., Juneja, A., Agnihotri, A., Taneja, D. and Sharma, N. (2017). A fuzzified approach to iris recognition for mobile security, IEEE International Conference of Electronics, Control and Aerospace Technology (ICECA 2017, Coimbatore), pp 246-251. 10.1109/ICECA.2017.8203680
- Bansal R., Bhasin V., Sehgal P., Bedi P. (2013). Multi-Agent System for Intelligent Watermarking of Fingerprint Images, International Conference on Fuzzy Systems, (Fuzz-IEEE – 2013, Hyderabad), pp 1-8. 10.1109/FUZZ-IEEE.2013.662243
- Bansal R., Sehgal P., Bedi P. (2012). Intelligent Wavelet Domain Watermarking of Fingerprint Images, IEEE 12th Int. Conf. Hybrid Intelligent Systems (HIS 2012, Pune), pp 90-95. 10.1109/HIS.2012.6421315
- Bedi P., Bansal R., Sehgal P. (2012). Securing Fingerprint Images using a Hybrid Technique. International Conference on Advances in Computing, Communications and Informatics (ICACCI – 2012, Chennai), pp. 557-565. 10.1145/2345396.2345488
- Bedi P., Bansal R., Sehgal P. (2012). Multimodal Biometric Authentication using PSO based Watermarking, Second International Conference on Computer, Communication, Control and Information Technology (C3IT 2012, Hooghly, West Bengal), Procedia Technology vol. 4, 2012, pp. 612-618, Elsevier. 10.1016/j.protcy.2012.05.098
- Bedi P., Bansal R., Sehgal P. (2011). Using PSO in Image Hiding Scheme based on LSB Substitution. International conference on Advances in Computing and Communications (ACC 2011, Cochin), pp.259-268, Springer. 10.1007/978-3-642-22720-2_26
- Bansal R., Gaur M., Arora P., Sehgal P., Bedi P. (2009). Fingerprint Image Enhancement Using Type-2 Fuzzy Sets, IEEE Sixth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2009, Tianjin, China), pp. 412-417. 10.1109/FSKD.2009.396
- Bansal R., Sehgal P., Bedi P. (2008). A novel framework for enhancing images corrupted by impulse noise using type-II fuzzy sets, IEEE Fifth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2008, Shandong, China), pp. 266-271. 10.1109/FSKD.2008.80
- Bansal R., Sehgal P., Bedi P. (2007). A Simplified Fuzzy Filter for Impulse Noise Removal using Thresholding, World Congress of Engineering and Computer Science, 2007 (WCECS 2007, San Francisco, USA), pp. 1051-1053. <https://www.researchgate.net/publication/44261518>

Book Chapters

- Bedi, P., Bansal, and R., Sehgal, P. (2014). Securing Biometrics using Watermarking. Book Chapter in the book titled “Research Developments in Biometrics and Video Processing Techniques“, IGI Global, 2014. 10.4018/978-1-4666-4868-5.ch004