

Dr. Baij Nath Kaushik

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Designation: Associate Professor
School: School of CSE, SMVDU, Katra

Date of Joining SMVDU: 24/04/2017
Date of Birth: 25/10/1974

EDUCATIONAL QUALIFICATIONS

Degree	University/Board
Ph.D. (CSE)	IIT, Dhanbad
M.TECH.	GGSIPIU, New Delhi
B.E. (CSE)	Nagpur University

Ph.D. Thesis Title: "Performance Evaluation of Approximated Artificial Neural Networks for Solving Some Reliability Problems in Complex Networks"

Research Funded Projects at University / School Level:

Title of the Project	Funding Agency	Sanctioned Amount	Name of PI/Co-PI
Setting up of High End Computing AI and Deep Learning lab at SMVDU	Higher Education Department, JK Govt.	16.5 Crore	Dr. Baijnath Kaushik, PI
Trans-disciplinary Research and Innovation hub	Higher Education Department, JK Govt.	10.00 Crore	Dr. Baijnath Kaushik, Co-PI

PhD Thesis Awarded/Submitted:

1. Dr. Surbhi Sharma (17DCS006), Ph.D. Thesis Title, "Enhancing Security of Internet of Vehicles (IoV) using Lightweight Cryptographic Solutions", Awarded on 22nd August, 2022, Dr. Baijnath Kaushik (Supervisor)
2. Dr. Reya Sharma (17DCS002), Ph.D. Thesis Title "Enhanced Neuro-evolutionary Techniques for Handwritten Dogra Script Recognition", Awarded on 23rd August 2022, Dr. Baijnath Kaushik (Supervisor)
3. Dr. Akshma Chadha (17DCS013), Ph.D. Thesis Title " Effective Learning Models for Identifying Suicidal Ideation in Individuals on social Media", Awarded 1st October 2022, Dr. Baijnath Kaushik (Supervisor)
4. Dr. Yusera Farooq Khan (18DCS006), Ph.D. Thesis Title "Intelligent Computational Framework using Feature Optimization for Prognosis and Detection Alzheimer's Dementia", Awarded 5th May 2023, Dr. Baijnath Kaushik (supervisor)
5. Dr. Davinder Paul Singh (18DCS004), Ph.D. Thesis Title "Prediction of anti-cancer drug response using Intelligent Computational Approaches", Awarded 12.09.2023, Dr. Baijnath Kaushik (Co-supervisor)
6. Dr. Sanjeev Kumar (18DP000424), Ph.D. Thesis title "Low Cost Effective and Intelligent Authentication Protocol for RFID" from IIT (ISM Dhanbad), Awarded 02.02.2024, Dr. Baijnath Kaushik (Co-supervisor)
7. Shikha Magotra (17DCS012), Ph.D. Thesis Title "Development of Computational Model for Text Segmentation in Takri Script OCR", Thesis Submitted on July 2023, Ph.D. Viva-Voce exam conduct on 18th March 2024, Dr. Baijnath Kaushik (supervisor).
8. Niharika (16DCS004), Ph.D. Thesis Title "Effective Use of Feature Extraction Techniques and Learning Paradigms on Bio-Medical Datasets for Disease Prediction", Thesis Submitted on July 2023 (under review), Dr. Baijnath Kaushik (supervisor).

Patent Published / Granted / Applied:

1. Dr. Baijnath Kaushik, Principal Investigator (PI), Digital Antibiotic Vials Auger Filling Machine, UK Design Patent No. Design number: 6319100, Granted.
2. Dr. Baijnath Kaushik, Principal Investigator (PI), A Novel Machine Learning Based Data-driven Device for Precision Agriculture, Patent Registration No.: 6323441, Granted.

3. Dr. Baijnath Kaushik, Principal Investigator (PI), System and method for efficient prediction of evaporation using ensemble feature selection techniques (Indian Patent Published)
4. Dr. Baijnath Kaushik, Co-Principal Investigator (Co-PI), Implementation of Artificial Intelligence and Block chain Integrated Billing Architecture for Charging Electrical Vehicles, Published (Proof Attached)
5. Dr. Baijnath Kaushik, Principal Investigator (PI), A Method for Live Transcription and Summarization using Natural Language Processing and Deep Learning, Filed

MOOC / NPTEL Courses Completed:

S.No.	Details (Mention Year, Value etc. where relevant)
1	MOOC, NPTEL Course: Computer Science, 101, https://online.stanford.edu, October, 2017
2	MOOC, NPTEL Course: Problem Solving Through C, https://onlinecourses.nptel.ac.in, April, 2019
3	MOOC, NPTEL Course: Python For Data Science with grade 62%, https://onlinecourses.nptel.ac.in, Sept, 2019
4	MOOC, NPTEL Course: Fuzzy Sets, Logic & Systems & Applications with grade 75%, https://onlinecourses.nptel.ac.in, January, 2020
5	MOOC, Course Era: Neural Networks and Deep Learning with grade 98% , Coursera Online Courses & Credentials From Top Educators. Join for Free Coursera , May 2022
6.	MOOC, Udemy Course: Python for Data Science & Machine Learning, March 2023
7.	MOOC, Udemy Course: Machine Learning A-Z: AI, Python & R + Chat GPT, April 2023
8.	Moc, Udemy Course: Deep Learning: Advanced Computer Vision (GANs, SSD + More!), June 2024
9.	Moc, Udemy Course: Deep Learning: Natural Language Processing with Transformers, June 2024

Total Teaching Experience: 22+ Years

Top Publications (latest SCIE/SCI/Scopus):

Involvement in Management & Institutional Development at Faculty/School Level:

1. Head, School of CSE, 18th July, 2017 – 30th August, 2018
2. Head, School of CSE, 1st September, 2021 – 30th August, 2024
3. Chairman, School SRC Committee
4. Biometric Purchase Committee
5. Chairman, Open Source Purchase Committee
6. Chairman, Purchase Committee for Brand Selection
7. Chairman, Physical Verification Committee, Administrative Block
8. Chairman, TEQIP-III, Departmental Purchase Committee
9. Chairman, Departmental BOS Committee,
10. Chairman, Departmental Academic Affair Committee
11. Chairman, Departmental of Various Class Committees
12. Chairman, Departmental SRC Committee

Top Publications (latest SCIE/SCI/Scopus):

1. Mahajan, B. Kaushik, M. K. I. Rahmani and A. S. Banga, "A Hybrid Feature Selection and Ensemble Stacked Learning Models on Multi-Variant CVD Datasets for Effective Classification," in *IEEE Access*, vol. 12, pp. 87023-87038, 2024, doi: 10.1109/ACCESS.2024.3412077
2. Kumar, S., Banka, H. & Kaushik, B. Lightweight group authentication protocol for secure RFID system. *Multimed Tools Appl* (2024). <https://doi.org/10.1007/s11042-024-19013-1>
3. Priyadarshni, V., Sharma, S.K., Rahmani, M.K.I., Kaushik, B., Almajalid, R. (2024). Machine learning techniques using deep instinctive encoder-based feature extraction for optimized breast cancer detection. *Computers, Materials & Continua*, 78(2), 2441-2468. <https://doi.org/10.32604/cmc.2024.044963>

4. Kaushik, B., Sharma, R., Dhama, K. et al. Performance evaluation of learning models for intrusion detection system using feature selection. *J Comput Virol Hack Tech* 19, 529–548 (2023). <https://doi.org/10.1007/s11416-022-00460-z>
5. Kaushik, B., Chadha, A. & Sharma, R. Performance Evaluation of Learning Models for the Prognosis of COVID-19. *New Gener. Comput.* 41, 533–551 (2023). <https://doi.org/10.1007/s00354-023-00220-7>
6. Davinder Paul Singh, Bajjnath Kaushik, CTDN (Convolutional Temporal Based Deep- Neural Network): An Improvised Stacked Hybrid Computational Approach for Anticancer Drug Response Prediction, *Computational Biology and Chemistry*, Volume 105, 2023, 107868, ISSN 1476-9271, <https://doi.org/10.1016/j.compbiolchem.2023.107868>.
7. Kumar, S., Banka, H. & Kaushik, B. Ultra-lightweight blockchain-enabled RFID authentication protocol for supply chain in the domain of 5G mobile edge computing. *Wireless Netw* 29, 2105–2126 (2023). <https://doi.org/10.1007/s11276-023-03234-7>
8. MAGOTRA, S., KAUSHIK, B. & KAUL, A. Takri touching text segmentation using statistical approach. *Sādhanā* 48, 104 (2023). <https://doi.org/10.1007/s12046-023-02150-y>
9. Gupta, Niharika & Kaushik, Baij & Khalid, Mohammad & Lashari, Saima. (2023). Performance Evaluation of Deep Dense Layer Neural Network for Diabetes Prediction. *Computers, Materials & Continua*. 76. 347-366. [10.32604/cmc.2023.038864](https://doi.org/10.32604/cmc.2023.038864).
10. A. Sharma, B. Kaushik, A. Chadha, and R. Sharma, "Comparative evaluation of deep dense sequential and deep dense transfer learning models for suicidal emotion prediction," *Concurr. Comput. Pract. Exp.*, vol. 35, no. 22, p. e7745, 2023, doi: 10.1002/cpe.7745.
11. D. P. Singh and B. Kaushik, "A systematic literature review for the prediction of anticancer drug response using various machine-learning and deep-learning techniques," *Chem. Biol. Drug Des.*, vol. 101, no. 1, pp. 175–194, 2023, doi: 10.1111/cbdd.14164.
12. Niharika Gupta, Baij Nath Kaushik, Prognosis and Prediction of Breast Cancer Using Machine Learning and Ensemble-Based Training Model, *The Computer Journal*, Volume 66, Issue 1, January 2023, Pages 70–85, <https://doi.org/10.1093/comjnl/bxab145>
13. Khan, Y.F.; Kaushik, B.; Chowdhary, C.L.; Srivastava, G. Ensemble Model for Diagnostic Classification of Alzheimer's Disease Based on Brain Anatomical Magnetic Resonance Imaging. *Diagnostics* 2022, 12, 3193. <https://doi.org/10.3390/diagnostics12123193>
14. Chadha, A., Kaushik, B. A Hybrid Deep Learning Model Using Grid Search and Cross-Validation for Effective Classification and Prediction of Suicidal Ideation from Social Network Data. *New Gener. Comput.* 40, 889–914 (2022). <https://doi.org/10.1007/s00354-022-00191-1>
15. Y. F. Khan, B. Kaushik, M. Khalid Imam Rahmani and M. E. Ahmed, "HSI-LFS-BERT: Novel Hybrid Swarm Intelligence Based Linguistics Feature Selection and Computational Intelligent Model for Alzheimer's Prediction Using Audio Transcript," in *IEEE Access*, vol. 10, pp. 126990-127004, 2022, doi: 10.1109/ACCESS.2022.3223681.
16. D. P. Singh and B. Kaushik, "Machine learning concepts and its applications for prediction of diseases based on drug behaviour: An extensive review," *Chemom. Intell. Lab. Syst.*, vol. 229, p. 104637, Oct. 2022, doi: 10.1016/j.chemolab.2022.104637.
17. Y. F. Khan, B. Kaushik, M. K. I. Rahmani and M. E. Ahmed, "Stacked Deep Dense Neural Network Model to Predict Alzheimer's Dementia Using Audio Transcript Data," in *IEEE Access*, vol. 10, pp. 32750-32765, 2022, doi: 10.1109/ACCESS.2022.3161749.
18. Sharma, R., Kaushik, B. Handwritten Indic scripts recognition using neuro-evolutionary adaptive PSO based convolutional neural networks. *Sādhanā* 47, 30 (2022). <https://doi.org/10.1007/s12046-021-01787-x>
19. R. Sharma, B. Kaushik, N. Gondhi, M. Tahir, and M. Khalid, "Quantum Particle Swarm Optimization Based Convolutional Neural Network for Handwritten Script Recognition," *Comput. Mater. Contin.*, vol. 71, no. 3, pp. 5855–5873, 2022, doi: 10.32604/cmc.2022.024232.
20. Y. F. Khan, B. Kaushik, and B. A. Mir, "Computational Intelligent Models for Alzheimer's Prediction Using Audio Transcript Data," *Comput. Inform.*, vol. 41, no. 6, Art. no. 6, 2022, doi: 10.31577/cai_2022_6_1589.
21. Sanjeev, Rajesh, Sanjay & Kaushik B., (2018), "Implementation of Neuro-Fuzzy Decision Tree Based Malignant Tumor Detection System", *Journal of Advanced Intelligence Paradigm*, Inderscience
22. Niharika & Kaushik B., (2018), "Machine Learning in Biomedical Mining for Disease Detection", *Journal of Artificial Intelligence*, *Science Alert*, 11(1), 39-47.

Google Scholar citation: <https://scholar.google.co.in/citations?user=R4KqIAAAAJ&hl=en>

Conferences/FDP Workshop Organized: July, 2017 onwards

Conference:

- i. International Conference on Machine Learning & Computational Intelligence (ICMLCI-2017) as a convener, 27-28 Sept, 2017, website: icmlci.smvdu.ac.in
- ii. 5th International Springer Conference on Computing, Communication and Cyber Security (IC4S'05 Volume 1) 29th Feb – 1st March, 2024.

FDP:

- a) Organized one week FDP as Coordinator on Applications of Soft Computing and Machine Learning, 3-7th April, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (IIT Madras, IIT Delhi, IIT Dhanbad, ISI Kolkata, Anna University).
- b) Organized one week FDP as Coordinator on Applications of Data Science & Machine Learning, 06-10th August, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (Louisiana Tech University, USA, IIT Madras, IIT Delhi, IIT Dhanbad, ISI Kolkata, Anna University).
- c) Organized one week FDP as Coordinator in collaborations with EICT & IIT Roorkee on Applications of Data Analytics using Python, 04-08th September, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (IIT Roorkee and from Industry).
- d) Organizing one week FDP as Coordinator in collaborations with EICT & IIT Roorkee on Internet of Things (IoT) with Cloud Applications, 20-24th November, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (IIT Roorkee and from Industry).
- e) Faculty Development Program on "AI, Machine Learning and Data Science" 15-19 January 2024 at SMVDU.

Invited Talks/Guest Lectures: July, 2017 onwards.

S. No.	Title of Lectures/ Lecture Series	Date, Place and Programme where lectures delivered	Place
1	Applications of Machine Learning in System Adaptation	14th Nov, 2017 at Department of Electronics, Jammu University, IETE Jammu	Department of Electronics, Jammu University, IETE Jammu
2	Application of Machine Learning & AI	29-30 Dec, 2017, College of Computing Science & IT, TMU, Moradabad	College of Computing Science & IT, TMU, Moradabad
3	Applications of Artificial Intelligence & Machine Learning in Mathematical Sciences	19-20 Jan, 2018, GGM Science College Jammu	GGM Science College Jammu
4	Applications of Artificial Intelligence & Machine Learning	12th Feb, 2018, yognanda College of Engineering, Jammu	yognanda College of Engineering, Jammu
5	Recent Trends in Machine Learning and Data Sciences	19th April, 2018, MIET, Jammu	MIET, Jammu
6	Recent Trends in Machine Learning and Data Sciences	24th April, 2018, NCRACIT-2018, Baba Ghulam Shah Badshah University, Rajouri	Baba Ghulam Shah Badshah University, Rajouri
7	Algorithms in Soft Computing and Machine Learning	Image Processing & Pattern Recognition, 25th - 30th May, 2018, Jammu University, Bhaderwah	Jammu University, Bhaderwah
8	Recent Trends in Data Science and Machine Learning	FDP on Research Methodology, 8-12 Oct, 2018, HRDC, SMVDU, Katra	HRDC, SMVDU, Katra
9	Contemporary Research & IPR	Recent Trends in Data Science & Machine Learning, FDP	JNTU, Hyderabad, 28th - 01st Feb, 2019
10	Machine Learning (ML-2019)	FDP	Baba Ghulam Shah University, Rajouri 29th Ar- 02nd May, 2019
11	Recent Trends in Machine Learning, data Science and Deep Learning	Two weeks Winter School/FDP	SMVDU, Katra, 16th Feb- 01st March, 2019

Session Chairs in International Conferences: July, 2017 onwards

- Invited as a Session Chair in the IEEE International Conference on 'System Modelling and Advancement in Research Trends', 29-30th Dec, 2017, TMU, Moradabad, India
- Invited as Session Chair in the International Conference on Recent Innovation in Computing, 05-06 March, 2018, Department of CS&IT, Central University, Jammu.
- Invited as a Session Chair in National Conference on Mathematical Sciences & Its Applications, 19-20th Jan, 2018, GGM Science College, Jammu
- Invited as a Session Chair in National Conference on Recent Advances in Computer Science & IT, 24-25th April, 2018, Baba Ghulam Shah University, Rajouri, J&K.

FDP / Workshop Attended: July, 2017 onwards

- Attended One Week short term course (QIP) on "Introduction to Cryptology", 4-8 Dec, 2017, IIT Roorkee.
- Participated in One Week Professional Development Training Program (FDP) under TEQIP-III, IIM Raipur, 14-18th Dec, 2017.
- Attended One Week AICTE Recognized Short Term Course on NS 2/3 Simulator conducted by NITTTR, Chandigarh, 12-16th March, 2018.
- Attended One week FDP Program on Applications of Soft Computing and Machine Learning, 3-7th April, 2018, School of CSE, Shri Mata Vaishno Devi University.
- Participated in One Week Professional Development Training Program (FDP) under TEQIP-III, IIT Mumbai, 11-16th June, 2018.
- Attended one week FDP as Coordinator on Applications of Data Science & Machine Learning, 06-10th August, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (Louisiana Tech University, USA, IIT Madras, IIT Delhi, IIT Dhanbad, ISI Kolkata, Anna University).
- Attended one week FDP as Coordinator in collaborations with EICT & IIT Roorkee on Data Analytics using Python, 04-08th September, 2018, School of CSE, Shri Mata Vaishno Devi University, Speakers Invited (IIT Roorkee and from Industry).
- Attended one week FDP on "Internet of Things: Theory & Applications", IIT Kharagpur, 24-28 October, 2018 by Dr. Sudip Misra.
- Attended one week FDP on "Wireless & Mobile Applications", EICT, IIT Roorkee and SMVDU, 04-08 December, 2018.
- Attended one week FDP on "AI and Machine Learning", EICT, IIT Roorkee and SMVDU, 17-21 December, 2018.

(Dr. BAIJNATH KAUSHIK)
