

Dr. Jayoti Bansal

PROFESSOR & PRINCIPAL

Department of Computer Science & Engineering

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PROFESSIONAL SUMMARY

Distinguished academician and administrator with 25+ years of experience in engineering education. Currently serving as Principal of Baba Farid College of Engineering & Technology, Bathinda. Led the institution to achieve NAAC A+ grade (2024) and UGC Autonomy (2026–27). Active researcher in AI/ML, EEG-based diagnostics, and grid computing with 14+ journal publications (SCI/SCIE/Scopus indexed), 12 patents, and funded projects worth ₹39+ Lakhs from CSIR and AICTE. Recognized for excellence in leadership, placements, and academic innovation.

KEY LEADERSHIP & ACHIEVEMENTS

- Coordinating Academic, Research, T&P, Admissions, and NAAC activities as Principal
- Achieved NAAC A+ grade for the institution during 2024
- Achieved Autonomy under UGC for academic session 2026–27
- Established School of Skill Development, Campus Product Development Division & School of Entrepreneurship
- Set up AICTE Idea Lab as Chief Mentor
- Signed MOUs with AIIMS Bathinda, Central University of Punjab & IIT Ropar
- Established multiple Centres of Excellence with FESTO, Intel India, Infosys, Schneider Electric, and others
- Hosted Smart India Hackathon 2025 (Software Edition)

AWARDS & RECOGNITION

- Global Femina Excellence Award 2022 for Outstanding Contribution in Promoting Leadership & Management
- Best Placements & Best Results Award in the region by MRSPTU, Bathinda

EDUCATION

| Degree | Specialization | University / Board | Year |
|---------|--------------------------------|-----------------------------|------|
| Ph.D. | Computer Science & Engineering | Punjab Technical University | 2018 |
| M.Tech. | Computer Science & Engineering | AAI-DU | 2005 |

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| B.Tech. | Computer Science & Engineering | Kurukshetra University | 2001 |
| Diploma | Computer Engineering | State Board of Tech. Education | 1998 |

PROFESSIONAL EXPERIENCE

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| Principal <i>Baba Farid College of Engineering & Technology, Bathinda</i> | <i>Feb 2021 – Present</i> |
| Professor & Vice Principal <i>Baba Farid College of Engineering & Technology, Bathinda</i> | <i>Aug 2019 – Feb 2021</i> |
| Associate Professor & Dean Academics <i>Baba Farid College of Engineering & Technology, Bathinda</i> | <i>Jul 2011 – Jul 2019</i> |
| Assistant Professor & HOD <i>G.R.D. Institute of Technology, Lehra Bega</i> | <i>Jul 2010 – Jun 2011</i> |
| Assistant Professor & HOD <i>G.G.S. College of Engg. & Tech., Talwandi Sabo</i> | <i>Jul 2008 – Jun 2010</i> |
| Senior Lecturer & Incharge <i>G.G.S. College of Engg. & Tech., Talwandi Sabo</i> | <i>Jul 2003 – Jun 2008</i> |
| Lecturer <i>G.G.S. College of Engg. & Tech., Talwandi Sabo</i> | <i>Jul 2001 – Jun 2003</i> |

FUNDED RESEARCH PROJECTS

- AICTE RPS Scheme Grant of ₹16.16 Lakhs – "EEG-Integrated AI-Enabled Mobile Platform for Diagnosis of Depressive Disorders" (2026)
- CSIR Research Grant of ₹23 Lakhs – "Automated ADHD Diagnosis and Monitoring System" (2023)
- Applied: DST-SHRI Grant (~₹37+ Lakhs) – AI-powered wellness platform integrating IKS-based practices
- Applied: CSIR EMR Grant (~₹30+ Lakhs) – AI-based mobile application for depressive disorder diagnosis
- Applied: CSIR EMR Grant (~₹22+ Lakhs) – Quantum annealing-based career recommendation system
- Applied: CSIR EMR Grant (~₹19+ Lakhs) – UAV Detection and Alarming System

PATENTS (12)

- UAV/Drones Detection System for Border Area Security & Surveillance – Jul 2023 (No. 202311046002)
- Multistep Water Purification System and Device – Published Feb 2023 (No. 202111029033 A)
- Wi-fi Extending System – Jan 2023 (No. 202311004425)
- Portable Kettle Cum Bottle – Registered under Designs Act, Nov 2022 (Design No. 373749-001)
- Shoulder, Hand and Head Supported Brick Picker – Published Sep 2022 (No. 202211053534)
- A Method of Pesticide Residues/Chemicals Cleaning from Fruits and Vegetables – Published by Indian Patent Office, May 2022 (No. 202211021743)

- A System of Connecting Two LANs with Router – Published by Indian Patent Office, Dec 2021 (No. 202111025118)
- Ultrasonic Sensor System using Arduino – Published by Indian Patent Office, Dec 2021 (No. 202111025119)
- A Model to Identify Bus Route Information using Automated Chat-bot – Granted by Australian Patent Office, Nov 2021 (No. 2021105734)
- Autonomous Multipurpose Agro Turtle – Published by Indian Patent Office, Sep 2021 (No. 202111043891)
- Monitoring and Movement Detection using Image Subtraction – Granted by Australian Patent Office, Jul 2021 (No. 2021103120)

SELECTED PUBLICATIONS

- A. Kumar et al. & J. Bansal, "A Comprehensive Review of Bias in AI, ML, and DL Models," Archives of Computational Methods in Engineering (Springer), Dec 2025 – Q1, IF: 12.1, SCI/SCIE & Scopus indexed.
- J. Bansal, G. Gangwar, G. Singh & G. Rani, "EEG-Based ADHD Diagnosis Using Autoencoder and Reptile Search Algorithm with ML," Brain Sciences (MDPI), 2025 – Q2, IF: 3.3–3.6, SCI/SCIE & Scopus indexed.
- J. Bansal, G. Gangwar, G. Singh & G. Rani, "EEG-Based ADHD Diagnosis Using Autoencoder and RSA with ML," Clinical EEG and Neuroscience (SAGE), 2025 – IF: 2.0–2.5, SCI/SCIE & Scopus indexed.
- J. Bansal & G. Rani, "A Hybrid Batch Mode Fault Tolerance Strategy in Desktop Grid," IJNCR, Vol. 9(2), Jan 2020 – ACM & Google Scholar indexed.
- J. Bansal & G. Rani, "An Adaptive Fault Tolerant Scheduling System for Desktop Grid," EAI Endorsed Trans. on Scalable Information Systems, Vol. 6(21), 2019 – ESCI & Web of Science indexed.
- J. Bansal et al., "A Novel Heuristic for Scheduling of Independent Jobs on Grid Resources," IJET, Vol. 7(6), Dec 2016 – Scopus indexed.
- J. Bansal, V. Narula et al., "An Efficient Batch-Mode Scheduling Heuristic Based on Load Balancing," IJET, Vol. 7(6), Dec 2015–Jan 2016 – Scopus indexed.
- J. Bansal et al., "Performance Comparison of Three Batch-Mode Scheduling Heuristics," IJCA, Vol. 126(8), Sep 2015 – Google Scholar indexed.
- J. Bansal et al., "A Fault Tolerant Scheduler with Dynamic Replication in Desktop Grid Environment," IJETT in CS, Vol. 3(1), Feb 2014.
- J. Bansal et al., "The Work Queue with Dynamic Replication-Fault Tolerant Scheduler in Desktop Grid Environment," IJC&T, Vol. 11(4), Oct 2013.
- J. Bansal et al., "A Survey and Taxonomy of Scheduling Algorithms in Desktop Grid," IJCSET, Vol. 2(3), Mar 2012.
- J. Bansal et al., "Information-Aware Scheduling Strategies for Desktop Grid Environment," IJCSIT, Vol. 1(5), Jul 2011.
- J. Bansal et al., "The Work Queue with Replication – Fault Tolerant Scheduler with Timeout for Bag-of-Tasks Grid Applications," IJIP, Vol. 3(1), Mar 2009.
- J. Bansal et al., "Construction & Maintenance of Volunteer Groups in Desktop Grid Environment," JARCE, Vol. 3(1), Mar 2009.

BOOK CHAPTERS

- G. Singh, J. Bansal, A. Kaur et al., "AI-Driven Approaches for Depression Detection and Monitoring," AI, Big Data and Healthcare: Data-Driven Applications, 2025.

- J. Bansal, G. Singh, H. Rani, "The Role of Machine Learning Methods and Wearable Devices in Early Detection of Parkinson's Disease," AI, Big Data and Healthcare, 2025.

CONFERENCE PAPERS

- J. Bansal et al., "A Comprehensive Study on Channel Assignment Schemes for Cellular Mobile Systems," International Conference, Chitkara Institute of Engg. & Technology, Rajpura.
- J. Bansal et al., "Overview of Grid Computing," National Conference on Advancements in Computer Engineering, BBSBEC, Fatehgarh Sahib, Apr 2008.
- J. Bansal et al., "Distributed Computing & The Emerging Grid," National Conference on IT, SAS Institute of IT & Research, Mohali, Feb 2008.
- J. Bansal et al., "Robotics and Real Time Applications," National Conference on IT: Alchemy Transforming India, BMS College of Engg., Muktsar, Nov 2007.
- J. Bansal et al., "ADHOC Networks: Challenge and Opportunities," National Conference Innovation-2007, BBSBEC, Fatehgarh Sahib, Apr 2007.

CONFERENCES & PROGRAMS ORGANIZED

- Host – Smart India Hackathon 2025 (Software Edition), Dec 2025
- Convenor – International Conference on Computing, Communication & Security (ICCCS 2023), with CUP & MRSPTU, Mar 2023
- Convenor – International Conference on Emerging Technologies for Computing, Communication & Smart Cities (ETCCS-2021), with Springer, Aug 2021
- Convenor – One-month Industrial Internship Program with NITK-STEP & Pantech e Learning on IoT with ML, Nov–Dec 2020
- Member, Organising Committee – AICTE-ISTE FDP on "Recent Developments in AI Robotics", Dec 2020
- Convenor – AICTE-ISTE FDP on "Outcome Based Education – Teaching Learning Skills in Digital Age", Jul 2020
- General Chair – International Conference on Intelligent Machines (ICIM'19), with Springer, Mar 2019
- Member, Local Organising Committee – International Conference on AFTMME-16, under SOMME, Feb 2016
- Member, Executive Committee – International Conference on Information & Mathematical Sciences (IMS-13), Oct 2013

INVITED TALKS & SESSION CHAIR

- Session Chair – International Conference on Computational Techniques and Intelligent Machines (ICCTIM-2020), Nov 2020
- Invited Talk on "Future Internet Technology and Trends" – ICCTIM-2020, Nov 2020
- Guest Lecture on "Role and Need of MOOC" – Baba Farid College, Oct 2019
- Session Chair – 2nd International Conference on Food Security, Nutrition & Sustainable Agriculture (ICFNSA-2019), Feb 2019
- Invited Talk on "AI Agriculture" – ICFNSA-2019, Feb 2019

- Guest Lecture on "Career Guidance and Future Perspective in Computer Sciences" – Baba Farid College, Feb 2019
- Session Chair – International Conference on AFTMME-16, under SOMME, Feb 2016
- Session Chair – International Conference on Information & Mathematical Sciences (IMS-13), Oct 2013

FACULTY DEVELOPMENT PROGRAMS ATTENDED

- Outcome Based Education – AICTE-ISTE FDP at BFCET (Jul 2016)
- Open-Source Technologies through ICT – NITTTR Chandigarh at BFCET (Jul 2014)
- Instructional Delivery through ICT – NITTTR Chandigarh at BFCET (May 2014)
- NPTEL Awareness Workshop – JCDMCET Sirsa & IIT Madras (Feb 2014)
- Induction Programme through ICT – NITTR Chandigarh at BFCET (Jun 2013)
- Cloud Computing – MIMIT, Malout (Jun 2012)
- MATLAB & Applications in Engineering – MIMIT, Malout (Jan 2012)