

SEEMA KARAMCHAND YADAV

ASSISTANT PROFESSOR | INFORMATION TECHNOLOGY

K. J. Somaiya Institute of Engineering & IT, Mumbai | syadav@somaiya.edu | +91 8983287806

PROFESSIONAL PROFILE

Academic professional with 22+ years of teaching experience across Computer Engineering and Information Technology, with sustained involvement in undergraduate teaching, student mentoring, curriculum development, accreditation, research, project guidance, publications, examinations, academic administration and technical-event coordination. Professional and research interests span Database Management Systems, Data Mining, Big Data Analytics, Artificial Intelligence, Machine Learning, imbalanced dataset classification, ensemble learning, information retrieval and computer networks.

CAREER HIGHLIGHTS

- 22+ years of academic teaching experience in engineering education.
- Assistant Professor at K. J. Somaiya Institute of Engineering & IT since July 2004.
- Ph.D. in Computer Engineering – pursuing; M.E. in Computer Engineering (2010); B.E. in Computer Science and Engineering (1997).
- Experience in IQAC/NAAC/NBA activities, curriculum and syllabus design, examinations, mentoring, project guidance and institutional coordination.
- Research publication record in imbalanced dataset classification, ensemble learning, data mining, information retrieval and AI-related applications.
- Reviewer and evaluator for research papers, conferences and academic/project competitions.

EDUCATION

Qualification	Specialization / Institution	Year / Status
Ph.D.	Computer Engineering – Veermata Jijabai Technological Institute (VJTI), Mumbai	2025
M.E.	Computer Engineering – MGM College of Engineering and Technology, University of Mumbai	2010 | 66%
B.E.	Computer Science & Engineering – SGGS College of Engineering & Technology, Nanded	1997 | 67% | Distinction
HSC	Ordnance Factory Higher Secondary School, Chanda	71%
SSC	Ordnance Factory Higher Secondary School, Chanda	74%

ACADEMIC EXPERIENCE

Assistant Professor – Computer Engineering | K. J. Somaiya Institute of Engineering & IT, Mumbai | *July 2004 – Present*

Lecturer – Computer Engineering | K. J. Somaiya College of Engineering, Vidyavihar | *February 2004 – June 2004*

Lecturer – Computer Engineering | Institute of Technology, Ulhasnagar | *August 2003 – February 2004*

Lecturer | Sadubella Girls College, Ulhasnagar | *July 2002 – April 2003*

Lecturer – Computer Graphics | G. H. Raisoni College of Engineering, Nagpur | *August 2000 – December 2000*

Lecturer – Computer Engineering | Laxminarayan Agrawal Institute of Technology, Dhamangaon Rly. | *June 1998 – April 2000*

Lecturer – Computer Engineering | Government Residential Women's Polytechnic College, Yavatmal | *June 1997 – May 1998*

TEACHING PORTFOLIO

- Advanced Database and Information Retrieval; Database Management Systems; Advanced DBMS.
- Big Data Analytics; Data Mining and Business Intelligence; Data Warehousing and Mining.
- Data Structures, Algorithms and Analysis; Computer Networks; OOAD.
- C++; Java; Automata Theory; Convergence Technologies and Networking; Networking Technologies and Digital Devices.

- Operating Systems; Computer Graphics; Software Engineering; Computer Architecture and Organization.
- Academic practical work using Oracle, Java, XML, HTML, C, MySQL and WEKA.

RESEARCH INTERESTS

Core Research Area	Application / Supporting Areas
Imbalanced Dataset Classification; Machine Learning; Ensemble Learning	SMOTE variants, boosting, sampling strategies, pattern classification
Data Mining; Big Data Analytics; Artificial Intelligence	Intelligent data analysis and decision-support applications
Information Retrieval; Image / Document Processing	Retrieval and matching from image databases
Database Systems; Computer Networks	Data management, security and network-oriented applications

JOURNAL PUBLICATIONS

- SMOTEHash Boost Ensemble Algorithm for Imbalanced Dataset Pattern Classification. IEEE Access, Vol. 13, April 2025. DOI: 10.1109/ACCESS.2025.3555565.
- CSRBoost: Clustered Sampling with Resampling Boosting for Imbalanced Dataset Pattern Classification. IEEE Access, Vol. 13, 2025, pp. 175078–175093. DOI: 10.1109/ACCESS.2025.3616207.
- Learning from Imbalanced Data in Classification. International Journal of Recent Technology and Engineering (IJRTE), Vol. VIII, Issue V, January 2020.
- Educational Recommendation and Tracking System. International Journal of Scientific & Engineering Research, Vol. 7, Issue 11, November 2016.
- Information Retrieval from Image Databases. International Journal of Research, Vol. 8, Issue 1, pp. 15279–15283, January 2017.
- Data Mining Using R for Criminal Detection. International Journal for Innovative Research in Science & Technology, Vol. 3, Issue 09, February 2017.
- Personality Traits Detection Using RSTUDIO. International Journal of Recent Scientific Research, Vol. 8, Issue 01, pp. 15434–15438, January 2017.
- Statistical Analysis Using Data Mining. International Journal of Recent Scientific Research, Vol. 8, Issue 1, pp. 15358–15360, January 2017.
- BI Portal for Healthcare Informatics. International Journal of Novel Research in Computer Science and Software Engineering, 2016.
- Restaurant Revenue Prediction and Recommendation System. International Journal of Recent and Innovation Trends in Computing and Communication, Vol. 4, 2016.
- Web Server Log Processing using Hadoop. International Journal for Research in Engineering Application & Management, Vol. 1, Issue 10, January 2016.
- Real-Time Attendance and Estimation of Performance Using Business Intelligence. IJRET: International Journal of Research in Engineering and Technology, 2015.

CONFERENCE PUBLICATIONS / PRESENTATIONS

- SMOTEDISBoost: A Study of the Behavior of Distance Metrics. 16th International IEEE Conference on Computing and Networking Technologies, IIT Indore.
- SMOTESIMBoost: Analysis of Similarity Measures for Learning from Class-Imbalanced Data. 16th International IEEE Conference on Computing and Networking Technologies, IIT Indore.
- Handling Imbalanced Dataset Classification in Machine Learning. IEEE PuneCon 2020, 16–18 December 2020.
- Retrieval of Information in Document Image Databases Using Partial Word Image Matching Technique. IEEE International Advance Computing Conference (IACC), 2009.
- Data Mining Using R for Criminal Detection. ICETECT-17.
- Word Matching and Retrieval from Images. IEEE ICECA 2017.
- Application of AI in Agriculture Domain. National Symposium on Sustainable Agriculture Innovation through Geospatial and Artificial Intelligence.
- Education Mentoring and Transformation System. NCETCET'17.
- Word Matching and Retrieval of Images. NCETCET'17.
- An Android Based Virtual Notice Board for Ease of Information Flow. National Conference on Advances in Engineering Technology and Applied Sciences, 2015.
- Real Time Attendance System and Estimation of Performance Using Business Intelligence. National Conference on Advances in Engineering Technology and Applied Sciences, 2015.
- Text to Speech Web Plugin with Text Summarization. NCNHIT-13.
- Authentication Scheme for Session Password Using Color and Image. SITACS-2013.

- Web Application Testing Using Visual Models. NCETAES-11.
- Information Privacy Conflicts in CRM Services for an Online Shops. Interface-2010, VJTI.
- Data Mining Based Intrusion Detection in Real Time Environment. National Conference on Emerging Trends in Computers, Communication and Information Technology, 2009.

ACADEMIC LEADERSHIP, ADMINISTRATION & CURRICULUM

- IQAC Member; NAAC Coordinator (IT Department); NBA Coordinator; DAB Member; DQC Member.
- Alumni Coordinator; Proctor; Project Guide; Internal Assessment Coordinator; CAP/CAS Coordinator.
- Worked as In-Charge HOD, K. J. Somaiya Institute of Engineering & IT, Sion, Mumbai.
- Direct Second Year Admission Committee member; Time Table Coordinator; Audit Committee Member.
- Student Welfare Committee Member; Anti-Ragging Committee Member; Women's Grievance Cell Member.
- Workshop/STTP Coordinator; Cultural Coordinator; IET-NICE State and Regional Level Competition Coordinator.
- University paper examiner, moderator, paper setter and evaluator.

RESEARCH, PROJECTS & STUDENT MENTORING

- Ph.D. research: Intelligent Computing Techniques for Imbalanced Dataset Pattern Classification.
- Research work includes SMOTEHashBoost, SMOTEDISBoost, SMOTESIMBoost and CSRBoost frameworks.
- Guidance and mentoring of undergraduate/postgraduate projects in AI, data mining, databases, IoT, security and software applications.
- Supported student research, project competitions, technical events and institutional innovation activities.

FACULTY DEVELOPMENT PROGRAMS – SELECTED

- Leveraging Artificial Intelligence for Climate and Sustainability – AICTE ATAL FDP, K. J. Somaiya Institute of Technology, 3–8 February 2025.
- Generative AI and Its Applications with Computer Vision – AICTE ATAL FDP, LDCE Ahmedabad, 16–21 December 2024.
- Building Intelligence: Hands-On for Deep Learning, Generative AI and Toolkits – 9–14 December 2024.
- AI Applications in Banking and Healthcare Industry – December 2024.
- LaTeX – FDP, K. J. Somaiya Institute of Engineering and Information Technology, 26–31 December 2022.
- Green Audit and Energy Audit – National Level FDP, 1 April 2023.
- Innovation and Entrepreneurship – FDP, 10 December 2021–10 January 2022.
- Data Science with Statistical Methods using R Programming – AICTE ATAL FDP, 21–25 June 2021.
- Combating Cancer: Role of ML Techniques in Prevention and Treatment – AICTE ATAL FDP, 7–11 June 2021.
- Data Mining and its Applications – five-day workshop, IIT Bhopal, 7–11 March 2021.
- Machine Learning – AICTE/ISTE-approved STTP, Fr. C. Rodrigues Institute of Technology, 2–6 January 2018.
- Recent Advances in Big Data Technologies and Applications – STTP, 4–8 May 2015.
- Cloud Computing and Big Data Analytics – STTP, 10–14 November 2014.
- Research Methodology of PhD Aspirants – two-week STTP, 5–16 May 2014.
- Neural Network & Fuzzy System – STTP, 4–8 January 2010.
- Data Warehousing and Mining – orientation programme, 30 January 2010.
- Effective Teaching – Approach and Methods – STTP, 23–27 June 2008.

SELECTED ACTIVITIES ORGANIZED / COORDINATED

- Organized workshop on Databricks for Investigation and Innovation, 5 March 2022.
- Organized expert talk on Investigations for Developing Innovation, 8 May 2021.
- Organized IET-NICE Regional and State Level Competition.
- Organized STTP on Cloud Computing and Big Data Analytics, 10–14 November 2014.
- Organized orientation programme on Data Warehousing and Business Intelligence, 23 July 2010.
- Organized workshops on Linux and PHP/MySQL with Spoken Tutorial Project, IIT Bombay.
- Organized Cultural Festival "Surge" since 2012.

ACADEMIC SERVICE, REVIEWING & RECOGNITION

- Reviewer for Pattern Recognition Journal.
- Reviewer for the Asian Journal of Research in Computer Science.
- Reviewer for Artificial Intelligence and Machine Learning conference tracks.
- Judged KJSIEIT-IET INTECH 2K22 National Level Project Competition.

- Volunteer/coordinator for IET-NICE State and Regional Level competitions.
- Certified in Assessment and Workplace Training – Challenger TAFE National Training Provider qualification under the Australian Qualifications Framework.
- Patent filed: “A Deep Learning Based Data Security System in IoT Network”.

PROFESSIONAL MEMBERSHIPS

- Institution of Engineering and Technology (IET)
- Academic/Institutional committees including IQAC, NBA, DAB and DQC
- Active participation in professional and technical academic forums

TECHNICAL SKILLS

Area	Competencies
Programming	Java, C, C++, SQL, PL/SQL
Databases	Oracle, Microsoft SQL Server, MySQL
Web / Markup	HTML, XML
AI / ML / Data	Machine Learning, Data Mining, Big Data Analytics, WEKA
Operating Systems	Linux, Ubuntu, Windows
Research / Academic Tools	Rational Suite and related academic/research tools

CORE STRENGTHS

- 22+ years of teaching experience and strong academic mentoring skills.
- Strong teamwork, interpersonal communication and leadership abilities.
- Creative and resourceful approach to problem solving and academic innovation.
- Effective decision-making and ability to work under time constraints.
- Fast learner with continuous updating of technical and pedagogical knowledge.

PERSONAL DETAILS

Particular	Details
Name	Seema Karamchand Yadav
Date of Birth	28 September 1974
Nationality	Indian
Gender	Female
Languages Known	English, Hindi, Marathi
Hobbies	Travelling, Reading, Playing Games

DECLARATION

I hereby declare that the information presented in this academic CV is based on the academic and professional records supplied for preparation of this document and is true to the best of my knowledge.

Seema Karamchand Yadav