

Pranjala G. Kolapwar

Assistant Professor

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Profile

Assistant Professor in the Department of Computer Science and Engineering at SNGGS Institute of Engineering and Technology, Nanded, with over 18 years of teaching experience. Holds a B.E. in Computer Science and Engineering from Gadgebaba University, Amravati (2005), an M.Tech. from Swami Ramanand Teerth Marathwada University (2015), and is currently pursuing a Ph.D. in the same field from SRTMU, Nanded. Specialized in machine learning, deep learning, and stock market analytics with a strong record of research publications in reputed national and international journals and conferences. Actively engaged in mentoring students and contributing to innovative, industry-relevant solutions in intelligent financial systems.

Experience

- 2006-2009 **Lecturer:** Shri Guru Gobind Singhji Institute of Engineering and Technology.
- 2009-till date **Assistant Professor:** Shri Guru Gobind Singhji Institute of Engineering and Technology.

Education

- 2021 **Registered Ph.D., Swami Ramanand Teerth University, Nanded (MH).**
Title: *Design and Implementation of Novel Methods for Predicting Stock Market Trends.*
- 2015 **M.Tech., Computer Network and Information Security, Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded (MH).**
CGPA-7.62
Dissertation title: *Geoencryption.*
- 2005 **B.E., Computer Science and Engineering, Government College of Engineering, Amravati (MH).**
73.23%
Project title: *Database Management.*
- 2001 **HSC, Z.P. High School, Pandharkawada, Dis. Yeotmal, (MH).**
80.33
General Science
- 1999 **SSC, Sarswati Vidyalay, Saikheda, Ta. Pandharkawada, Dis. Yeotmal, (MH).**
75.33
General

Research Publications

Journal Articles

- 1 P. G. Kolapwar, U. V. Kulkarni, and J. M. Waghmare, "Cross-sector pairs trading via sector influence analysis using granger causality and mutual information," *Panamerican Mathematical Journal*, vol. 35, no. 4, pp. 1146-1157, 2025.
- 2 P. G. Kolapwar, U. V. Kulkarni, and J. M. Waghmare, "Enhancing pairs trading with adaptive pair rotation strategies in volatile markets," *Engineering, Technology & Applied Science Research*, vol. 15, no. 4, pp. 24 466-24 471, 2025.

- 3 P. G. Kolapwar, U. V. Kulkarni, and J. M. Waghmare, "Sector-based pairs trading strategy with novel pair selection technique," *IEEE Transactions on Artificial Intelligence*, 2024.
- 4 P. G. Kolapwar, "An improved geo-encryption algorithm in location based services," *IJRET Int. J. Res. Eng. Technol*, vol. 4, no. 5, pp. 547–550, 2015.
- 5 P. G. Kolapwar and H. Ambulgekar, "A survey on location based data encryption techniques or mobile nohes," *ISCSSIT*, pp. 1010–1015, 2014.

Conference Proceedings

- 1 P. G. Kolapwar, U. V. Kulkarni, and J. M. Waghmare, "Enhancing pairs trading with graph neural network-based pair selection," in *Accepted in IEEE International Conference on Recent Advances in Computing and Systems (ReACS '25)*, IEEE, 2025.
- 2 V. A. Arvindrao and P. G. Kolapwar, "Adaptive expansion algorithm for fuzzy min-max neural network in pattern classification," in *2017 International Conference on Intelligent Computing and Control Systems (ICICCS)*, IEEE, 2017, pp. 741–744.
- 3 P. G. Kolapwar and H. Ambulgekar, "Location based data encryption methods and applications," in *2015 Global Conference on Communication Technologies (GCCT)*, IEEE, 2015, pp. 104–108.

Patent Publication

- 2023  **Title of the invention :** AN AUTOMATED SENSOR BASED DOORBELL SYSTEM
 Application No.- 202321073987 A
 Date of filing Application: 31/10/2023
 Publication Date: 01/03/2024
- 2024  **Title of the invention :** AN ACCIDENT DETECTION AND EMERGENCY ALERT SYSTEM FOR ROAD SAFETY
 Application No.- 202421047987 A
 Date of filing Application: 21/06/2024
 Publication Date: 26/07/2024
-  **Title of the invention:** A MANUAL TIME DELAY WATER DISPENSER.
 Application No.-202421049908 A
 Date of filing Application: 29/06/2024
 Publication Date: 04/10/2024

Research Areas of Interest

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| Artificial Intelligence |  Exploring intelligent systems capable of reasoning, problem-solving, and adaptive decision-making across diverse domains. |
| Machine Learning |  Focused on supervised and unsupervised learning methods, model optimization, and predictive analytics. Currently working on applying ML techniques for financial data modeling and stock market forecasting. |
| Deep Learning |  Researching advanced neural architectures (CNNs, RNNs, LSTMs, and Transformers) for pattern recognition, natural language processing, and algorithmic trading strategies in financial markets. |
| Information Security |  Investigating security threats, vulnerabilities, and countermeasures. Experienced in secure coding practices, encryption, and cyber defense mechanisms. |
| Compilers |  Interest in compiler design, optimization techniques, and program analysis, with a focus on efficient code generation and performance improvements. |

Research Areas of Interest (continued)

Theory of Computation	Studying the fundamental limits of computation, automata theory, and formal languages, with applications in compiler construction, algorithm design, and complexity analysis.
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Skills

Languages	English and Marathi (reading, writing, and speaking).
Programming	C, Python, R, PHP, SQL, XML/XSL, $\text{\LaTeX}$.
Databases	MySQL, HSQL, SQLITE, Lotus Notes.
Web Development	HTML, CSS, JavaScript, Apache Web Server, Tomcat Web Server.
Operating Systems	Windows, Linux (Ubuntu, RedHat), MacOS.
Tools & Frameworks	Git, Jupyter Notebook, Anaconda, MATLAB, TensorFlow (basic), MS Office.
Miscellaneous	Academic research, teaching, training, curriculum design, technical writing, $\text{\LaTeX}$ typesetting and publishing.
Soft Skills	Leadership, teamwork, communication, mentoring, problem solving.

Achievements

NPTEL Courses	Deep Learning
	Data Mining
	Compiler Design
	Secured **Topper Rank** in this course
SFRF	Python for Data Science
	Summer Faculty Research Fellow Programme (SFRF-2022) under CEP held at IIT Delhi
	Summer Faculty Research Fellow Programme (SFRF-2023) under CEP held at IIT Delhi

Courses Taught

PG	Security Threats and Vulnerabilities
UG	Formal Language and Automata Theory (Theory of Computation)
	Compiler Design and Optimization
	Computer Organization and Architecture
	Communication Engineering
	Numerical Analysis
	Basic Electronics

Training / Workshops / Courses Organized

- Poster Competition cum Exhibition on MAKE IN INDIA, CSE Department, SGGSIET, 28 February 2015
- 2 Days Workshop on Cyber Security and Forensics Tools, CSE Department, SGGSIET, 27–28 March 2015

Training / Workshops / Courses Organized (continued)

- Digital Greeting Card Competition cum Exhibition, CSE Department, SGGSJET, 10 October 2015
- 2 Days Workshop on Mobile App Development, CSE Department, SGGSJET, February 2016
- One Week FDP on Essentials of Neural Networks and Fuzzy Systems, CSE Department, SGGSJET, 18–22 December 2017
- 2 Days Guest Lecture on Compiler Design and Optimization for Third Year Students, CSE Department, SGGSJET, 16–17 March 2019
- Expert Talk for PG Students on Cyber Security, CSE Department, SGGSJET, 26 June 2021
- Organized poster competition for SY CSE students, CSE Department, SGGSJET.
- Organized a project competition, CSE Department, SGGSJET.
- Organized one day workshop on Innovation and prototype Validation under IIC cell.

Training / Workshops / Courses Attended

- Machine Learning using Python, SGGSJET, 21–25 January 2019
- Academic Leadership Development Programme, IIT Mumbai, 3–5 January 2019
- Cyber Security, SGGSJET, 6–10 March 2018
- Essentials of Neural Networks and Fuzzy Logic, SGGSJET, 18–22 December 2017
- Soft Computing Techniques and Applications, Banasthali Vidyapeeth, Rajasthan, 23–28 December 2018
- Design and Development of Small Satellite, SGGSJET, 24–29 March 2017
- Machine Learning and High Performance Computing, SGGSJET, 9–10 March 2017
- Unified Payment Interface (UPI): Cashless Mode of Payment, SGGSJET, 31 December 2016
- High Impact Presentations, Dale Carnegie Training Centre, Mumbai, 18–19 December 2016
- Computer Vision and Pattern Recognition, SGGSJET, 13–23 July 2016
- Big Data Analytics, SGGSJET, 20–25 June 2016
- MATLAB in Research and Data Analytics, SGGSJET, 2–7 May 2016
- New Trends in Industrial Waste Disposal and Management, SGGSJET, 17–21 December 2015
- Mobile Application Development
- One Week National Online Faculty Development Program on “ICT Tools for Effective Teaching Learning,” School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded, 27 April – 2 May 2020.
- Research Oriented Faculty Development Programme on “Advanced Computing Techniques,” Department of CSE, Lakireddy Bali Reddy College of Engineering (A), Mylavaram, 22–25 June 2020.
- Two Days Online Workshop on “Soft Computing,” Government College of Engineering, Karad, 9–10 July 2020.
- Five Day Online FDP on the theme “Inculcating Universal Human Values in Technical Education,” All India Council for Technical Education (AICTE), 1–5 February 2021.

Membership Details

- IEEE Member
- Lifetime member of ISTE (LM111197)

Administrative Responsibilities

- Departmental Time Table In charge during 2009–10 and 2010–11
- NBA Coordinator (Worked as NBA Core Committee Member) in 2010
- Store MIS Module In charge
- Summer Term Examination Co-ordinator during academic year 2010–11, 2013–14 and 2017–18
- Judge for Junior Scientist Competition in Praggyaa–2014
- Departmental Faculty Co-ordinator in Praggyaa–2013, 2014, 2015, 2017, 2018 and 2019
- Worked for Conference held in January 2014
- Online Attendance Module In charge
- Nodal Officer for Equity Component of RUSA
- Web Committee In charge for Utsav–2017, 2018 and 2019
- NAAC Committee Member
- Canteen Committee Member from 2016 to 2019
- Judge for Competition in Praggyaa–2020 (Online Mode)
- Judge for Junior Scientist Competition in Praggyaa–2014
- Currently working as a Canteen Committee Member
- Faculty Coordinator of SPARK Club, CSE departmental club.
- Working as a IIC departmental coordinator
- NBA Committee member
- Worked as a member of the assessment committee for faculty recruitment in 2023

Other Responsibilities

- Examiner in DIPEX 2019
- Exam In charge for ZP exam conducted for the post of Data Entry Operator
- Organized 1 st Nanded Range Police Duty Meet Computer Awareness Competition 17 th July 2023, Nanded, at CSE department, SGGSJET, Nanded.