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Dr. MALLANAGOUDA PATIL

Engineering Professional | Research & Development | Around 30 Years of Experience

An engineering professional with three decades of diverse experience across Research & Development, Industry, and Academia including 12 years in the Software Industry and around 18 years in Academics.

- **Doctorate in Engineering** from **Visvesvaraya Technological University (VTU), Belagavi, 2018.**
- **Currently working as Associate Professor**, Department of Computer Science & Engineering, **RV Institute of Technology and Management, Bengaluru since 2021.**
- **Successfully supervised one Ph.D. scholar and currently guiding two doctoral candidates: One has submitted Thesis and Another is appearing for the Course Work Examination.**
- **Authored 34 publications**, with 19 indexed in Scopus, 3 in Q2, 2 in Q3, 1 in Q4 Journals alongside 10 papers presented at IEEE International conferences.
- **Four books authored and published.**
- **Awarded Grant for the Project** titled “Cognitive Agent based Resource Estimation an QoS Routing in Mobile Adhoc Networks” by Visvesvaraya Technological University (VTU), Belagavi for 10.00 L, 2012-2015.
- **Three Patents Granted (One Australian and Two Indian)**
- **Contributed to Cutting-Edge Research and Development at the Defence Research and Development Organization (DRDO), LRDE, Government of India over a period of two years.**
- **Worked with Global Tech Leaders including NEC (Japan), HP (USA), Vodafone (UK), and Samsung (South Korea).**
- **International Research Contributor:** Served as **SIH Reviewer, Session Chair and Technical Program Committee (TPC) Member for Springer and IEEE International Conferences in Singapore and elsewhere.**

EDUCATIONAL QUALIFICATIONS

- 2018** **Ph.D.**, VTU, Belagavi
Study on Physical and MAC layer issues in Wireless Sensor Networks
- 2012** **M.Tech (Computer Networks and Engineering)**, VTU, Belagavi
CGPA: **8.11 (Grade ‘A’)**
- 1996** **B.E (CSE)**, Karnataka University Dharwad (**75.60% - FCD**)

SKILLS Programming Languages: C, C++, and Python

Tools: NS2, NS3 and TeMIP

OS: VxWorks, Unix, and Intel Real Time Operating System (iRMX)

Subjects: Machine Learning, Programming in Python, Probability Models, Computer Networks, UNIX Systems Programming, System Modelling and Simulation, Object Oriented Programming Systems, and Data Structures.

PUBLICATIONS:

- Mallanagouda Patil, Padmageetha B. G, Pramod Kumar Naik, “Spectral efficient network and resource selection model in 5G networks ”, IAES, International Journal of Artificial Intelligence, DOI:10.11591/ijai.v14.i2.pp1164-1172, 14(2):1164, (Q2), 2025.
- Sharath, M.N., Rajesh, T.M., Patil, Mallanagouda. “A novel encryption with bacterial foraging optimization algorithm based pixel selection scheme for video steganography”. Multimedia Tools and Applications (Q2), <https://doi.org/10.1007/s11042-023-14420-2>, vol. 82, pp. 25197–25216., 2023.
- Mallanagouda Patil, Sharath, M.N., & Rajesh, T.M. “Design of optimal metaheuristics based pixel selection with homomorphic encryption technique for video steganography”. International Journal of Information Technology. (Q2), <https://doi.org/10.1007/s41870-022-01005-9>, vol. 14, pp. 2265-2274, 2022.
- Mallanagouda Patil, Padmageetha B. G, Pramod Kumar Naik, “TERM: Throughput Efficient Resource Management Scheme for 5G Communication Using NOMA Systems”, International Journal of Intelligent Engineering Systems, <https://oaji.net/articles/2023/3603-1746774565.pdf>, Vol. 18, No. 5, DOI: 10.22266/ijies2025.0630.43, (Scopus, Q3), 2025.
- Mallanagouda Patil, R C Biradar, “Media Access Control in Wireless Sensor Networks using Priority Index”, Indonesian Journal of Electrical Engineering and Computer Science, p-ISSN: 2502-4752, e-ISSN: 2502-4760, vol. 5, No 2, pp. 416-426, (Scopus, Q3), 2017.
- Mallanagouda Patil, Padmageetha B. G, Pramod Kumar Naik, “Resource Allocation in 5G Networks - Machine Learning Approach”, Journal of Electrical Systems, <https://journal.esrgroups.org/jes/article/view/5493>, Vol. 30, No. 3, ISSN 1112-5209, (Scopus Q4), 2024.
- Mallanagouda Patil, P. Nagol, N. Yogeeshha and M. M. Amar, "Heart Disease Detection Using Machine Learning Techniques on a Cardiovascular Dataset," 2025 *IEEE International Conference on Compute, Control, Network & Photonics (ICCCNP)*, Bangalore, India, 2025, pp. 1-6, doi: 10.1109/ICCCNP63914.2025.11233536.
- Mallanagouda Patil, A. G, A. Sharma and S. Patil, "An Automated Alert System for Financial Fraud Detection with Learning Based Models," 2024 *8th IEEE*

International Conference on Computational System and Information Technology for Sustainable Solutions (CSITSS), Bengaluru, India, 2024, pp. 1-6, doi: 10.1109/CSITSS64042.2024.10816781.

- P. B. G, P. K. Naik and M. Patil, "Energy Efficient LEDCA Analysis for Improved Throughput in Wireless Sensor Networks," *2025 6th IEEE International Conference on Mobile Computing and Sustainable Informatics (ICMCSI)*, Goathgaun, Nepal, **2025**, pp. 26-33, doi: 10.1109/ICMCSI64620.2025.10883167.
- M. Patil, A. G, A. Sharma and S. Patil, "An Automated Alert System for Financial Fraud Detection with Learning Based Models," *2024 8th IEEE International Conference on Computational System and Information Technology for Sustainable Solutions (CSITSS)*, Bengaluru, India, **2025**, pp. 1-6, doi: 10.1109/CSITSS64042.2024.10816781.
- P. B.G, P. Kumar Naik and M. Patil, "Enhancing 5G Efficiency: Regression Analysis for Resource Allocation Optimization in Wireless Networks," *IEEE International Conference on Electrical Electronics and Computing Technologies (ICEECT)*, Greater Noida, India, 2024, pp. 1-6, doi: 10.1109/ICEECT61758.2024.10739217.
- Mallanagouda, Patil. Kanakaraddi, S., Chikaraddi, A., Giraddi, S., Gull, K. "Optimized Scene Text Detector and Paddle Optical Character Recognizer Techniques to Extract Text from Images". In: Manoharan, S., Tugui, A., Baig, Z. (eds) Proceedings of 4th International Conference on Artificial Intelligence and Smart Energy. ICAIS 2024. Information Systems Engineering and Management, https://doi.org/10.1007/978-3-031-61471-2_16, vol. 3, pp. 218-230, (**Springer, Cham**), **2024**.
- Mallanagouda, Patil. Patil, M.M., Agrawal, S. "WGAN for Data Augmentation". In: Solanki, A., Naved, M. (eds) GANs for Data Augmentation in Healthcare. (**Springer, Cham**). https://doi.org/10.1007/978-3-031-43205-7_13, pp. 223-241, **2023**.
- Surbhi, A., Mallanagouda, P., Patil, M.M., "Data Augmentation Approaches Using Cycle Consistent Adversarial Networks". In: Solanki, A., Naved, M. (eds) GANs for Data Augmentation in Healthcare. (**Springer, Cham**). https://doi.org/10.1007/978-3-031-43205-7_7, pp. 111-131, **2023**.
- M. Gowtham, M. K. Banga, Mallanagouda Patil, Natarajan Meghanathan. "An Intelligent Traffic Management System". In Cyber-Physical Systems and Industry 4.0, **Taylor and Francis group**, vol. 1, pp. 17-28, **2022**.
- M. N., Sharath; T. M., Rajesh; Patil, Mallanagouda. "Novel video Steganography approach with the combination of knight tour and 7th bit model of embedding data". **Academic Journal**, vol. 20, pp. 657-668, **2022**.
- BG. Padmageetha., Mallanagouda. Patil. "Survey on Cross-Layered Wake-up Receiver-Enabled WSN", Computer Communication, Networking and IoT. Lecture Notes in Networks and Systems, https://doi.org/10.1007/978-981-16-0980-0_28, vol. 197. **Springer, Singapore**. **2021**.

- M. Gowtham., M. K. Banga., Mallanagouda. Patil. “Intrusion Detection and Avoidance for Home and Smart City Automation in Internet of Things”, Book on IOT: Security and Privacy Paradigm, **CRC Press**, 1st Edition, ISBN 9780367253844 - CAT# 310232, pp. 2-23, **2020**.
- Patil, Mallanagouda. Tamanna Jena, Rajesh T M. “Elitist TLBO for Identification and Verification of Plant Diseases”, Socio-cultural Inspired Metaheuristics, **Springer, Singapore**, pp. 41-67, 2019.
- M. Gowtham., M. K. Banga., Mallanagouda. Patil. “CL-PKA: Key Management in Dynamic Wireless Sensor Network: A Novel Framework”, Emerging Research in Electronics, Computer Science and Technology, **Springer, Singapore**. vol. 545, pp. 317-330, 2019.
- M. Gowtham., M. K. Banga., Mallanagouda. Patil. “Secure Internet-of- Things: Assessing Challenges and Scopes for NextGen Communication”, 2nd **IEEE International Conference** on Intelligent Computing, Instrumentation and Control Technologies (ICICT), Kannur, Kerala, vol. 1, pp. 151-158, 2019.
- M. N., Sharath; T. M., Rajesh; Patil, Mallanagouda. “Analysis of Secure Multimedia Communication in Cloud Computing”, 2nd **IEEE International Conference** on Intelligent Computing, Instrumentation and Control Technologies (ICICT), Kannur, Kerala, vol. 1, pp. 136-144, 2019.
- Mallanagouda. Patil, RC Biradar. “New Approach for Media Access in Wireless Sensor Networks”, **International Journal of Creative Research Thoughts** (UGC Approved), ISSN: 2320-2882, vol. 6, Issue 2, pp. 585-599, 2018.
- Mallanagouda Patil, R C Biradar, “Energy Efficient Weighted Clustering Algorithm in Wireless Sensor Networks”, Global Journal of Computer Science and Technology, p-ISSN: 0975-4350, vol. 17, Issue. 2, pp. 55-63, 2017.
- Mallanagouda Patil, R C Biradar, “Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks”, Global Journal of Computer Science and Technology, p-ISSN: 0975-4350, vol. 17, Issue 2, pp. 43-54, 2017.
- Mallanagouda Patil, R C Biradar, “Energy Efficient Dynamic Clustering using Mobile Sink in Wireless Sensor Networks”, International Journal of Latest Technology in Engineering, Management & Applied Science, ISSN 2278-2540, vol. 6, pp. 27-32, 2017.
- Mallanagouda Patil, R C Biradar, “Dynamic Error Control Scheme based on Channel Characteristics in Wireless Sensor Networks”, **IEEE International Conference** on Recent Trends in Electronics, Information and Communication Technology (IRTEICT), SVIT, Bengaluru, pp. 736-741, 2017.

- Mallanagouda. Patil and R. C. Biradar, "Priority based slot allocation for media access in Wireless Sensor Networks," **IEEE International Conference** on Emerging Research in Electronics, Computer Science and Technology (ICERECT), Mandya. doi: 10.1109/ERECT.2015.7498995, pp. 98-103, doi: 10.1109/ERECT.2015.7498995, 2015.
- Mallanagouda Patil, R C Biradar, "A Survey on Routing Protocols in Wireless Sensor Networks", **IEEE International Conference on Networks (ICON2012)**, Singapore, 978-1-4673-4523-1/12/, pp 86-91, 2012.
- B Padmageetha, KN Pramod, Patil Mallanagouda. "Low Energy Data Centric Algorithm in Wireless Sensor Network". Journal of University of Shanghai for Science and Technology, vol. 1, pp. 66-71, **2023**.

LINKS TO RESEARCH PUBLICATIONS

Google Scholar: <https://tinyurl.com/Mallanagouda-Patil>

ResearchGate: <https://www.researchgate.net/profile/Mallanagouda-Patil>

ORCID: <https://orcid.org/0009-0009-3795-0919>

SCOPUS: <https://www.scopus.com/authid/detail.uri?authorId=55706071600>

LinkedIn: <https://www.linkedin.com/feed/update/urn:li:share:737610623060553664/>

RESEARCH PROPOSALS SUBMITTED

- INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH titled "**Metabolic Health Monitoring App - Revolutionizing Health Through Personalized Nutrition and Digital Guidance**" for 30 Lakhs on 13th Nov 2025
- Vision Group on Science and Technology, Karnataka. Faculty Development Program (FDP) titled "**Recent Thrust areas in Research and Development: A Multidisciplinary Approach**" for 2 lakhs, June 2024.
- Department of Science and Technology Cognitive Science Research Initiative (CSRI) under WISEKIRAN scheme titled "**Blockchain and Artificial Intelligence enabled integrated farming system**" for 12 lakhs, May 2024.
- Core Research Grant (CRG), Science and Engineering Research Board titled "**Increasing food production with smart farming using Machine Learning, IoT and Block chain technologies**" for 20 lakhs, April 2022.
- Vision Group on Science and Technology titled "**Design and Implementation of Block chain Enabled Personalized Healthcare system**" for 15 lakhs, December 2019.

- Core Research Grant formerly known as EMR titled “**Security for live streaming data using multi modal technologies**” for 22 lakhs, June 2018.

PATENT

- Invention Title: **Computer Vision Based Object Tracking Device** (Design No. 490768-001), Granted on 26th March 2026, **Government of India**.
- Invention Title: **Device for Visualizing Complex Data** (Design No. 450676-001). Granted on 18th March 2026, **Government of India**.
- Invention Title: **Automated location identification system using text and image data** (2021100154), Granted on 31st March 2021, **Australian Government**.

INVITED TALKS

- Machine Learning with Generative Adversarial Networks. Audience: B.E 5th Semester CSE students from RVITM, Bengaluru on 28th July 2023.
- Artificial Intelligence and Machine Learning with Python. Audience: B.Tech and BCA students from Vijayapur on 18th December 2020.
- Fundamentals of Python and its applications in Machine Learning: Audience: Employees from Malaysian company AI Tech Park on 24th December 2020.

ACHIEVEMENTS/AWARDS

- Topped the institution in **Bachelor of Engineering (B.E)**, Karnataka University Dharwad.
- Stood second to the institution in **Master of Technology (M.Tech)**, VTU, Belagavi.

NATIONAL/INTERNATIONAL CONFERENCES ORGANIZED

- Second National Conference on Digital Technology and Engineering (NCDTE-2024), 2-3 May 2024, RVITM, Bengaluru.
 - Fourth International Conference on Intelligent Computing and Communication (Springer) (ICICC - 2020), 18th to 20th September 2020, DSU, Bengaluru.
 - Third International Conference on Intelligent Computing and Communication (Springer) (ICICC - 2019), 7th to 8th June 2019, DSU, Bengaluru.
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PROFESSIONAL EXPERIENCE

- | | | |
|---|--|--------------|
| RV Institute of Technology and Management | ASSOCIATE PROFESSOR | 2021-Present |
| | <ul style="list-style-type: none">• Mentoring student projects and research activities• Actively involved in training and placement | |
| DAYANANDA SAGAR UNIVERSITY | ASSOCIATE PROFESSOR | 2017-2021 |
| | <ul style="list-style-type: none">• Mentoring PhD research scholars Recognized for handling system side subjects and effective practical teaching method• Probability Models, Network programming, Unix Systems Programming, Computer Networks and NS2 | |
| BNM IT | ASSISTANT PROFESSOR | 2013-2017 |
| | <ul style="list-style-type: none">• System Modelling and Simulation, Data Structures and C programming | |
| REVA ITM | ASSISTANT PROFESSOR | 2010-2013 |
| | <ul style="list-style-type: none">• Advanced computer networks and System Modelling and Simulation | |
| HEWLETT PACKARD GLOBALSOFT LTD | TECHNOLOGY CONSULTANT | 2004-2010 |
| | <ul style="list-style-type: none">• Design, Implementation, Testing and Technical support for Network Fault Management and Access Transmission Programme (ATP) migration• C++, Unix, TeMIP, Cramer• Clients: British Telecom and Vodafone(UK) | |
| L & T InfoTech | PROJECT LEAD | 2003 – 2004 |
| | <ul style="list-style-type: none">• Analysis, Design, Coding, Porting and Testing (at Client site) of the 82546EB Ethernet Controller on to Redboot platform.• Analysis, Design and Coding of HA Middleware• C, Linux, Redboot• Clients: Samsung (South Korea) | |
| Digital GlobalSoft | SENIOR SOFTWARE ENGINEER | 2000 – 2003 |
| | <ul style="list-style-type: none">• Building VxWorks5.4 Kernel and booting PowerPC (PPC6604 and PPC6750) boards.• Design and implementation of Radio Link Control (RLC) layer of 3G Wireless stack.• Implementation and testing of Data loaders• Pro-C, Unix, Tandem, Sun Solaris• Clients: NEC(Japan) , Hewlett Packard Co(USA) | |

DRDO

SENIOR RESEARCH FELLOW

1998-2000

- Analysis, Design, Implementation and Testing of Protocol Layer
- Testing the functionality of Radars and Missiles
- C and Intel Real Time Operating System (iRMX)

BLDEA's COLLEGE OF
ENGINEERING

LECTURER

1996-1998

- C Programming, Object Oriented Programming Systems using C++

Date:

Place: Bengaluru

Signature