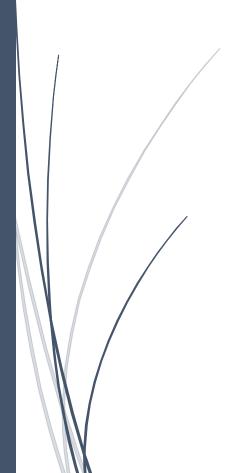# VipinKumar R. Pawar

Phd Scholar, University of Mumbai
Co-Ordinator, ISRO-IIRS Outreach Program, ISRO, Dehradun, India
Reviewer, Giscience & Remote Sensing, Taylor & Francis
Reviewer, IEEE, Geoscience and Remote Sensing
Reviewer, Elsevier Remote Sensing
Research Associate, Institute of Investigation in Remote Sensing & GIS, Netherland
ME (VLSI & Embedded Systems), University of Pune
BE (Electronics & Telecommunication Engineering), University of Mumbai
CESD, Pune University
MIEEE, California
MIAENG, Hong Kong
MATSC, Washington DC, USA
AP-MICROCHIP, USA
MIFERP, Chennai, India
MIRED, New York, USA

Specialization:

Remote Sensing & GIS
Embedded Systems Design
VLSI Design
Internet of Things (IoT)
Artificial Intelligence
Satellite Image Processing
Data Science
Robotics Technology
Augmented Reality

OVERVIEW

Proficient at executing good safety and health improvement practices for optimum utilization of resources and providing them with a safe working environment. Excellent interpersonal & negotiation skills with strong problem solving & organizational abilities.

05	**04**	**08**
RESEARCH PAPER	**CONFERENCES**	**ISRO COORDINATION**
10	**07**	**10**
SEMINARS	**WORKSHOPS**	**PROJECTS**

EDUCATION

- **PhD (Remote Sensing)** [since June 2016]

  Terna Engineering College, Nerul, Navi Mumbai, Maharashtra, India

  MUMBAI University

  CGP in coursework: 7.5/10

- **Masters in Engineering** [Dec 2014]

  Department of Electronics & Telecommunication Engineering,

  SND College of Engineering, Babhulgaon, Yeola, Nashik, Maharashtra, India

  PUNE University

  Aggregate: 7.25/10

- **Higher Secondary Certificate (10+2) Bachelor of Engineering** [Aug 2011]

  Department of Electronics & Telecommunication Engineering

  SMT. Indira Gandhi College of Engineering, Koparkhairane, Navi Mumbai,

  Maharashtra, India

  MUMBAI University

  Percentage: 60.19%

- **Higher Secondary School Certificate (10+2)** [April 2005]

  K.T.H.M.College, Nashik, Maharashtra, India

  Aggregate: 63.17%

- **Secondary School Certificate (10)** [Feb 2003]

  Maratha High School, Nashik, Maharashtra, India

  Aggregate: 62.66%

WORK EXPERIENCE

- **Research Officer** in *Institute of Investigation in Remote Sensing & GIS, Pune*　　　**[since Nov'2011]**

    Responsibilities:

    1. **Automotive Embedded System Design**
    2. **Firmware Development on Communication Protocols: I2C, CAN, SPI, UART, Bluetooth,Zigbee, LoRa**
    3. **Embedded System IDE: Keil, MPLAB, Visual Studio 2010, ARM SDK**
    4. **Embedded Hardware Design with 8051,PIC 12/16/18, DsPIC, ARM 7/9/11 Cortex M1,M2,M3 Series, Arduino UNO, MEGA, Lillypad**
    5. **Vehicle Health Monitoring System with IoT**
    6. **Remote Sensing Instruments Designs and Development**
    7. UMTS, 3G / 4G / 5G, WiMax, UTRAN, RAN network Optimization
    8. **RF Planning and Optimization (CDMA, GSM & UMTS)**
    9. **Radio Network Optimization**
    10. Transmission Planning
    11. Transmission Maintenance
    12. **Product Designing and firmware coding**
    13. **Documentation of ISO 9001-2018, Internal Audit, In charge of IQAC**
    14. Coordinate between Data Scientists and Business Analysts
    15. Automate infrastructure used by the Data Science team
    16. **Convert machine learning models into APIs so that other applications can access them**
    17. Test and deploy models
    18. Develop minimum viable products based on machine learning
    19. **Automate processes by utilizing machine learning**
    20. Use AI to empower the company with novel capabilities
    21. Research improvements to machine-learning algorithms
    22. Use machine learning on a set of data inputs in a software development life cycle
    23. Data-mining
    24. Pattern matching
    25. Pattern recognition
    26. Train machine-learning based software for domain-specific tasks (Image recognition, object detection, bioinformatics, autonomous vehicles, etc.)
    27. Designing and implementing software of embedded devices and systems
    28. Designing, developing, coding, testing and debugging system software
    29. Analysing and enhancing efficiency, stability and scalability of system resources
    30. Analyse and enhance the efficiency, stability and scalability of system resources
    31. Integrate and validate new product designs
    32. Support software QA and optimize I/O performance
    33. Provide post production support
    34. Interface with hardware design and development
    35. Assess the third party and open source software
    36. Experience in hands-on development and troubleshooting on embedded targets
    37. Solid programming experience in C
    38. Familiarity with software configuration management tools, defect tracking tools, and peer review

ISRO Outreach Network Coordination

- **Remote Sensing and Digital Image Analysis**　　　**[Aug 2018 – Sept 2018.]**

    Organized By: ISRO, Indian Institute of remote Sensing

- **Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System**　　　**[Aug 2018 – Nov 2018.]**

Organized By: ISRO, Indian Institute of remote Sensing

● **Advanced Geospatial Modelling Tools and Techniques** **[Aug 2018]**

Organized By: ISRO, Indian Institute of remote Sensing

● **Geospatial Inputs for Enabling Master Plan Formulation under AMRUT** **[July 2018]**
Sub-scheme

Organized By: ISRO, Indian Institute of remote Sensing

● **Advanced Image Analysis** **[June 2018]**

Organized By: ISRO, Indian Institute of remote Sensing

● **Geospatial Inputs for Enabling Master Plan Formulation under AMRUT** **[July 2018]**
Sub-scheme

Organized By: ISRO, Indian Institute of remote Sensing

● **RS and GIS Application in hydrometeorological disasters management** **[May 2018]**

Organized By: ISRO, Indian Institute of remote Sensing

● **Remote Sensing & GIS applications in Carbon Forestry** **[Feb 2017– March 2017]**

Organized By: ISRO, Indian Institute of remote Sensing

PUBLICATIONS / CONFERENCES

Reviewer, **Scopus Indexed International Journal, GIScience & Remote Sensing,** Publisher:**Taylor & Francis**

International Conference Organizing Committee Member:
1. ICMESS 2019, Mumbai
2. ICFIET 2019, Nagpur

Conferences

1. VipinKumar R. Pawar, S.R. Gaikwad, *"Surface water Quality Analysis & Real Time Monitoring System"*,
   Journal of emerging technologies & Innovation Research (JETIR), Volume 6, Issue 4, April 2019

2. VipinKumar R. Pawar and Swapnil Thorat, *"Integration of Dynamic KML Format and Pocket GPS System"*
   Equinox-2018 dated 27 Sept. 2018 by Terna Engineering College, Navi Mumbai, Indi

3. VipinKumar R. Pawar and Dr. Imdad Rizvi, *"WSN Based Natural Disaster Alert and Analysis System"* Asian

   Conference on Remote Sensing, 23-27 October, 2017 at New Delhi, India

4. VipinKumar R. Pawar , *"Emotion Recognition from Hindi Speech using MFCC and Sparse DTW"*
   ePGConference-2014 at K.K.Wagh College of Engineering & Research Centre, Nashik

Journals

1. VipinKumar R. Pawar, S.R. Gaikwad, *"Surface water Quality Analysis & Real Time Monitoring System"*,
   Journal of emerging technologies & Innovation Research (JETIR), Volume 6, Issue 4, April 2019

2. VipinKumar R. Pawar and Monali Kadam, *"VKz Surveying Robot (GPTrack Edition)"* International Journal of Engineering Research & Technology (IJERT) 2278-0181,06 , October-2017

3. VipinKumar R. Pawar and Gautam Bhoge, *"Wireless Agricultural Monitoring using Raspberry Pi"* International Journal of Engineering Research & Technology (IJERT) 2278-0181,06 , May-2017

4. VipinKumar R. Pawar and Nupur Patel, *"Emotion Recognition from Hindi Speech using MFCC and Sparse DTW"* International Journal of Engineering Research & Technology (IJERT) 2278-0181,06 , June – 2015

5. VipinKumar R. Pawar, Prof. Seema Shende, *"Introduction-Wireless Local Area Sensor Network Protocol for Rescue Calling"* International Journal of Engineering Research & Technology (IJERT) 2278-0181,03 , June - 2014

Book

"Remote Sensing Technology in Wireless Sensor Network", Er. VipinKumar Pawar and Dr. Sudhakar Mande, Under preparation.06, October-2017

EXPERT LECTURES

Expert Lectures

1. **"Research Opportunities in Space Technology",** Sinhagad College of Engineering, Ambegaon, Pune — **[Sept. 2019]**

2. **"Space Robotics"** organized by NIT Polytechnic, Nashik — **[Oct. 2018]**

3. **"eRobotics"** organized by Dhole Patil College of Engineering, Pune — **[June 2018]**

4. **"Power Electronics"** organized by KADWA Polytechnic, Dindori, Nashik — **[Jan'2017]**

5. **"Remote Sensing Basics"** organized by NIT Polytechnic, Nashik — **[Jan'2017]**

6. **"Satellite Image Processing using Remote Sensing"** organized by Terna Engineering College, Navi Mumbai — **[Dec'2016]**

7. **"Intelligent Robotics"** organized by Sanghavi College of Engineering, Nashik — **[May'2016]**

8. **"ASIC Design"** organized by K.K.Wagh Polytechnic, Chandori, Nashik — **[March'2016]**

9. **"Microcontroller & Embedded Systems"** organized by Kadwa polytechnic, Rajaramnagar, Dist. Nashik — **[Dec'2015]**

10. **"Embedded Systems & PCB Design"** organized by Kashinath Mengal Polytechnic, Ghoti, Dist. Nashik — **[Nov'2013]**

Workshop

1. **"eRobotics"** organized by Dhole Patil College of Engineering, Pune — **[Jan'2019]**

2. **"eRobotics"** organized by Dhole Patil College of Engineering, Pune — **[June 2018]**

3. **"Decision Makers Course"** organized by ISRO, IIRS, Dehradun — **[June 2017]**

4. **"Satellite Image Processing using Remote Sensing"** organized by Terna Engineering College, Navi Mumbai — **[Dec'2016]**

5. **"Intelligent Robotics"** organized by Sanghavi College of Engineering, Nashik **[May'2016]**

6. **"PCB Artwork Design"** organized by Sandip Polytechnic, Mahiravani, Dist. Nashik **[Nov'2013]**

7. **"Embedded Systems & PCB Design"** organized by Kashinath Mengal Polytechnic, Ghoti, Dist. Nashik **[Nov'2013]**

RESEARCH PROJECTS

1. *EV-BMS (Project By: DiversoPowerSystems PVT. LTD (PVT.))* **[ongoing]**
Description: Design of Battery Monitoring Systems of electrical Vehicle to monitor each cell of battery to alert battery damage.

2. *Radio Network Analysis (Project By: Indian Institute of Remote Sensing & GIS (Govt.))*
Description: Currently analyzing the Radio network coverage for LTE Network for Disaster Risk Reduction(DRR) technique to establishment of wireless sensor network within the high risk zones mapped by ISRO Disaster management team.

3. *Integration of Dynamic KML Format and Pocket GPS System (Project By: Indian Institute of Remote Sensing & GIS (Govt.))* **[ongoing]**
Description: ISRO is developing Indian GIS Portal like GAGAN, BHUVAN, IWRIS for Indian GIS Database management system. To establish the working infrastructure related to radio communication for telecom industries, Pocket GPS system is developing which supports and generate time frame based kml extension.

4. *Automation of underground water quality analysis and management (Project By: Water Resource Department, Geological Survey of India (Govt.))* **[ongoing]**
Description: GSI has developed automation control room state and district wise under the Smart cities and villages project, Water Resource Department, Nagpur has undertaken the project to analyse the quality of water with availability during drought season, to maintain water supply equally.

5. *Demarcation of HT and LT (Project By: World Trade Centre, Mumbai (Govt.))* **[June 2018]**
Description: The Mumbai World Trade Centre at Cuffe Parade was built in 1970. It consists of two towers, the M Visvesvaraya Industrial Research and Development Centre (MVIRDC) and IDBI. MVIRDC is knowby name called Centre 1. It was, at 156m, the tallest building in South Asia until the 2010 completion of The Imperial towers at Tardeo (252m). It was built by the Shapoorji Pallonji Group.WTC wants to establish server program in Cuffe Parade campus, for the same purpose, they required NOC to demarcation of HT and LT zone. Mapping has been done successfully.

6. *Vehicle Interior Power Distribution Panel (Project By: ANITAS MicroSystes (INDIA) (Industry))* **[May 2018]**
Description: Designed for the automotive industry to control interior using Bluetooth module/Remote/Mobile App

7. *Wireless Multi Sensor Detection and alert (Project By: ANITAS MicroSystes (INDIA) (Industry))* **[Sept 2017]**
Description: Designed for Industrial as well as residential areas for providing Alert message when an accident is going to occurred.It Senses Fire, Hazardous Gas leakage, Unauthorized Entry and Calls Ambulance, Police & Fire Brigade for Rescue operation.

8. *VKz GeoInfoSys (Project By: ANITAS MicroSystems (INDIA) (Industry))* **[Sept 2017]**
Description: Windows based application developed on VB platform for GIS database management

9. *Bus Transport Management System (Project By: Sanghavi College of Engineering, Nashik)* **[June 2016]**

   Description: Institute want to design ERP system to manage bus facility with account activity with bus route management using GPS navigation

10. *Attendance System (Project By: Sanghavi College of Engineering, Nashik)* **[June 2016]**

    Description: Institute want to design ERP system to track student attendance with parent letter (month wise), lecture/practical activity etc.

CERTIFICATIONS

1. **Augmented Reality** **[November 2019]**
   Organized By: Agnel Institute of Technology, Assagaon, Goa
2. **MATLAB & Its Applications** **[January 2014]**
   Organized By: Department of E&TC Engineering, sandip Polytechnic Nashik

3. **MATLAB & Its Applications Web Designing** **[Oct. 2012 – Jan 2013]**
   Organized By: IT Professionals,Nashik

4. **Artificial Neural Network** **[March 2013]**
   Organized By: SND College of Engineering & Research Center, Yeola

5. **Hardware & Networking** **[Oct 2012– Dec. 2012]**
   Organized By: Department of E&TC Engineering, sandip Polytechnic Nashik

6. **Embedded Robotics** **[Oct. 2012]**
   Organized By: Department of instrumentation Science, University of Pune

7. **Embedded System Developer** **[July 2011 – Sept. 2011]**
   Organized By: Prolific Automation, Chinchwad,Pune

8. **CISCO Certificate Network Administration** **[April 2010]**
   Organized By: IETE Student Forum & SMT. Indira Gandhi College of Engineering,Navi mumbai

SKILLS

Research skills

1. **Remote Sensing:**
   Completed Govt. / Public / Private sector project using Remote Sensing tools

2. **Geographical Information System:**
   Having Excellent practical knowledge on GIS tool "QGIS" with GIS Database Management skills

3. **Wireless Sensor Network:**
   Workingon Wireless Sensor Network Topology for "Disaster Risk Reduction"

4. **Telecom BTS Management:**
   BTS database management system with Electrical, Mechanical and Geographical analysis

5. **Embedded System & PCB Design:**
   Ability to design Embedded Systems with dedicated 1/2/4 layer motherboard layout with Arduino uno / nano, PIC16/18, 89S/C and LoRa, BT, Zigbee platform

6. **Augmented Reality**
   Proficient in Asset Design, 3D object Design, AR camera integration, Animation

Technical skills

Operating Systems: Windows and Ubuntu (Linux)

Prgramming Language: C, Embedded C, VB, C#

Scientific / Technical software:

QGIS	Forsk Atoll	ArcGIS	Global Mapper
MATLAB (Mapping toolbox)	MS Office 2010/2016	Keil	Multisim v12
Proteus v6	MPLab xIDE	Edsim51	R Studio
GeoGebra	SciLab	LaTEX	Inkscape
Unity (Augmented Reality)	Microsoft Teams	Microsoft Projects	Xilinx

REFEREES

Mr. Milind R. Saindane

Civil Engineer, +91 9822026216, Nashik, Maharashtra, India

PERSONAL INFORMATION

Father's name	Mr. Rajendra Shankarrao Pawar
Date of birth	18 August 1987
Marital status	Married
Gender	Male
Permanent address	F-4, RoopSangam Society-B, Snehanagar, Dindori Road, Mhasrul, Nashik, India-422004
Languages	Marathi, Hindi, English
Hobbies	Driving
Website	www.vipinpawar.in

DECLARATION

I hereby certify that all the information furnished above is correct to the best of my knowledge and belief and I promise to abide by all the norms laid down by your esteemed organization.

(Er. Vipinkumar R. Pawar)