Nitin Madhav Shenvi

Present position

- **Visiting Faculty**

Contact Details(Mention e-mail) – fergusson.edu or despune.org

- 📞 **020-67656057**
- ✉ **nitinshenvi64@gmail.com**
- in **https://www.linkedin.com/in/nitin-shenvi-a101651b**

Work Experience

- **Teaching: 36 years**
- **Research/Industrial: 23 years**

Course(s) Taught (Only Titles)

1. Diploma in Industrial Electronics (Basic Analogue Electronics, Basic Digital Electronics and Instrumentation (Center of Electronics and Technology, Pune)
2. General Laboratory (Department of Electronic Science, University of Pune)
3. Computer Laboratory (Department of Electronic Science, University of Pune)
4. Communication Laboratory(Department of Electronic Science, University of Pune)
5. IBT-301T: Fundamentals of Electronics and Instrumentation (Institute of Bioinformatics & Biotechnology, University of Pune)
6. VPH 2402: Principles and Applications of Analog & Digital Communication (S. Y. B. Sc.)
7. EEM paper -1: PCB design, fabrication, and assembly (F. Y. B. Sc.)

Field of Specialization/Areas of Interests

- **Embedded System**
  - Designed 8051/52 based system
  - Used to control, measure and process physical parameters

- **Biomedics**
  - Designed and calibrated system based on micro controller to measure respiration
  - Designed calibration human model / system for respiration (Received prize for this work in NSPTS Gwalior)
  - Developed respiration monitor / alarm for neonatal.

- **PC based System**
  - Designed PC based DIO, Analogue Input and Output system
  - Used this PC based system to check and process Laboratory data. Prepare graph and complete experiment within five minutes.

Education

- M. Phil. in Electronics Science (Grade A) June 2009
  Savitribai Phule Pune University, Department of Electronics Science
- M.Sc. (PPPR) in Electronics Science (Passed 61%) June 2005
  Savitribai Phule Pune University, Department of Electronics Science
- Post Graduate Diploma in Computer Programming, System Analysis and Applications (First Class) May 1988
  Board of Technical Examinations, Maharashtra State, Cusrow Wadia College
- B.Sc. (Applied) Advanced Electronics (First Class with Distinction) June 1985
  Savitribai Phule Pune University, Physics Department
- B.Sc. (Physics) with other subject, Mathematics, Chemistry and Biology (First Class) May 1984
  Savitribai Phule Pune University, Nowrosjee Wadia College
- MS-CIT (84%) May 1988
  Maharashtra State Board of Technical Education

Fellowship/Awards/ Certifications/Achievements/Recognitions

1. The Institution of Engineers (India) elected me as Technician on 13th September 1986.
2. In syllabus forming of subject Photography and Audio-Visual Production – topic Communication Technology 18/12/2013
3. **Won first prize from R Chandrashekhar Memorial foundation for continuation and best industrial oriented work – NSPTS14**

Employment History

1) Organization : *Center of Electronics and Technology, Pune*
Role   **:** *Visiting Faculty*
Duration   **:** 1986-1987

Responsibilities	*Conducted 48 Lectures on Diploma in Industrial Electronics* • Basic Analogue Electronics • Basic Digital Electronics • Instrumentation

2) Organization : *Department of Electronic Science, University of Pune*
Role   **:** *Visiting Faculty*
Duration   **: 1988-1990**

Responsibilities	• *Conducted General Laboratory as Joint In Charge* **1988 to May 1989**. • *Conducted Computer Laboratory with Dr R N Kulkarni* **June 1989 to 1990** • *Conducted Communication Laboratory as Joint In Charge* **2007 to 2009** • *Hybrid Energy Laboratory In Charge* **20016 to 2022** • Hardware & Software repairs and maintenance of various measuring and scientific equipments • System Administrator **1996 – 2006** • Communication Laboratory **2007-2009** • Departmental Project for Development of Practical Laboratory Excellence Program **2009- 2015** • Collected 550 Alumni data in the year **2011** – Out of 720

3) Organization : *Institute of Bioinformatics & Biotechnology, University of Pune*
Role : *Visiting Faculty*
Duration : **2007-08 to 2009-10**

Responsibilities	*IBT-301T: Fundamentals of Electronics and Instrumentation* **2007-08 to 2009-10** • Basic Analogue Electronics • Basic Digital Electronics • Instrumentation – Sensors and transducer, signal conditioning and processing. • Instrumentation – Interfacing, applications etc.

4) Organization : *Photography (Vocational), Physics Department, Fergusson College (Under Pune University and now Autonomous College)*
Role : *Visiting Faculty*
Duration : **Nov-2010 till date**

Responsibilities	• *VPH 2402: Principles and Applications of Analog & Digital Communication*

5) Organization : *Electronics Equipment Maintenance (Vocational), Electronics Department, Fergusson College (Under Pune University and now Autonomous College)*
Role : *Visiting Faculty*
Duration : **2015-2016**

Responsibilities	• *EEM paper -1: PCB design, fabrication, and assembly* **Nov-2015 to Mar-2016**

6) Organization : Bush Electronics, Pune
Role : Programmer
Duration : **15 Nov 1986 – Feb 1988**

Responsibilities	• Developed simulator / trainer for young one on based on symptoms of faulty TV sets • Helped to improve procedure so that trainee training gets accelerated. • Instructions / implementation / improvements generally received on phone and we are implementing these modifications required by end users. • Delivered this through Mr Navgire co-worker in development to Bush Electronics • End users' trails were conducted inhouse (Cusrow Wadia College) as well as his location (Mr Navgire).

7) Organization : Winner System, Pune India
Role : Industrial Trainee
Duration : **15 Nov 1984 – Feb 1985**

Responsibilities	• Three months training and understanding different procedures involved in production of electronic equipment's. • Helped to improve procedure so that production is pipe lined. • Instructions / implementation / improvements generally received on phone and we are implementing these modifications required by end users. • Delivering equipment's to end users. • End users' trails are conducted inhouse as well as his location.

8) Organization : Winner System, Pune India
Role   : Industrial Trainee (Research & Development)
Duration   : Feb 1985 – 31 May 1985

Responsibilities	• Designed and manufactured a prototype Numerical control for Philips Urulikanchan Division based on TTL ICs. • The same prototype Numerical control later converted to CMOS ICs proven working in industrial environment. • Designed Power Overload & Malfunction Controller card for 17 different power supplies. • Developed & designed Function generator based on IC 8038. • The function generator later used to calibrate many equipments developed by Winner Systems.

Research Projects

Title of the Project	Name of Funding Agency	Amount (Rs)	Duration (Year) (From To)	Type (Minor / Major)	Outcome
Numerical Controller	Winner System, Pune India		Feb 1985 – Mar 1985		• Designed and developed with help of Dr. Wagle from University of Pune • The purpose of controller is to limit number of layers for paper capacitor. • Tested first prototype, passed in laboratory condition. In Industrial environment it starts malfunctioning. • So, changed to CMOS ICs. This unit helped to overcome industrial environment worked as intended by the user.
Power Overload Malfunction Controller	Winner System, Pune India		Feb 1985 – Mar 1985		• Auto Power Supply Cut-Off designed for 15 supplies required by end user - Physics Department, PU for BDL project • Tested this logic for 15 supplies. Initially designed worked for positive DC supply but failing for negative DC supply. • Remedy was suggested by me and Owner accepted my remedy. • Then it started working as required. • Tested in front of end user and they accepted the performance of total Unit.
Function generator	Winner System, Pune India		Feb 1985 – Mar 1985		• Studied different function generator and features • Compared XR2206 and IC 8038 basic function generator. • Cost of 8038 is cheaper so used. The real aim to design unit at less than Rs 1000. It is achieved. Used opamp and other circuit to amplify basic function

					generator. Controls Fine frequency, different ranges, DC shift, Waveform amplitude adjustment.

RESEARCH EXPERIENCE
Savitribai Phule Pune University, Department of Electronics Science
Research Assistant **May 2000 – March 2022**
PC Based Instrumentation May 2000 – May 2005
• Completed a comprehensive literature review for testing methods to characterize electronics laboratory parameters and its processing methods
• Analyzing electronics laboratory parameters, identify significant properties and find the relative sensitivity required for measurements and data processing
• Designing a prototype device for measurement of Electronics laboratory experimentation
• Developing software to control prototype device for measurement and collecting data as well as processing data.
Embedded System May 2005 – May 2009
• Completed a comprehensive literature review for testing methods for distance measurement
• Analyzing optical fiber sensor and studying signal processing methods
• Studying calibration of optical fiber for distance measurement and finalizing the model.
• Designing a prototype device for distance measurement based on optical fiber
• Developing software to control prototype device for measurement and collecting data as well as processing data.
Biomedical Instrumentation May 2005 – May 2010
• Completed a comprehensive literature review for testing methods for biomedical measurement
• Making optical fiber sensor suitable for biomedical parameter measurement
• Designing a prototype device for measurement of respiration based on optical fiber
• Developing software to control prototype device for measurement and collecting data as well as processing data.
Systematic study of Laboratory skill improvement Apr 2009 – Oct 2015
• Segregation of Electronics Laboratory experiments depending on skills development
• Preparation of charts and expected goals for each practical conducted by student.
• Writing experiment sheets with above details as well as reference from research paper / history of Idea.
• Evaluating students on their understanding gained before and after completion of that particular laboratory

Research Publications in National and International Journals

Journal
1. **N. M. Shenvi** and A. D. Shaligram, - "*Smart Use Of Parallel Port Of PC For Measuring, Controlling Of Parameters For Laboratory Applications*", IAPT Bulletin Jan 2004 pp 96-103

Peer-Reviewed Conference Proceedings
1. **N. M. Shenvi** and A. D. Shaligram, - "*A Multifunctional External Device For PC Based Laboratory Experiments On Sensor Characterisation*", Proceedings of NSPTS 10 4th-6th March 2004
2. **N. M. Shenvi** and A. D. Shaligram, - "*Development of Low Cost Multi Input and Output Interface System For Laboratory Use*", Arts Science & Commerce college Chopda, Dist Jalgaon (NSAIE), Jan (2006)
3. **N. M. Shenvi,** M. L. Dongre and A. D. Shaligram, - "*Sliding Window Filter As A Signal Conditioner For Optical Scattering Based Sensor*", Pune University Pune NSPTS-11 in Mar

4. **N. M. Shenvi,** N. M. Kulkarni and A. D. Shaligram, - *"Designing of Optical Fiber Based Dial Indicators For Surface Profiling"*, AU College of Engineering Autonomous Andhra University, Vishakhapatnam NSI33 in Dec (2008)

5. **N. M. Shenvi,** N. M. Kulkarni and A. D. Shaligram, - *"Development of Respiratory Rate Simulator"*, Gwalior University, Gwalior NSPTS-14 in Mar (2009) **One first prize from R Chandrashekhar Memorial foundation for continuation and best industrial oriented work**

6. **N. M. Shenvi,** N. M. Kulkarni and A. D. Shaligram, - *"Non-contact Non-invasive Respiration Monitor to measure Respiration Rate in different Environmental condition"*, Savitribai Phule Pune University, Pune NSPTS-15 in Mar (2010)

7. Vipul Dhongade, **Nitin Shenvi** and A D Shaligram, – *"A Feasibility Study Of Hybrid Renewable Energy Generation Based On Solar PV, Wind And Biogas Plant"*, National Conference on Applications of Computer and Electronics Science. Vol 1 pp. 77-80 ISBN: 978-81-926543-2-4 21 Jan 2017

8. Vipul Dhongade, **Nitin Shenvi** and A D Shaligram, – *"Cloud Service Based Monitoring System For Hybrid Renewable Energy Sources Using Internet Of Things Platform"*, International conference: Emerging Technologies: Micro to Nano Solapur University, 6 Oct. to 7 Oct. 2017

Participation in Conferences/Seminars/Symposia/Workshop:

Oral Presentations

1. **N. M. Shenvi** and A. D. Shaligram, - *"A Multifunctional External Device For PC Based Laboratory Experiments On Sensor Characterisation"*, Proceedings of NSPTS 10 4th-6th March 2004

2. **N. M. Shenvi** and A. D. Shaligram, - *"Development Of Low Cost Multi Input And Output Interface System For Laboratory Use"*, Arts Science & Commerce college Chopda, Dist Jalgaon (NSAIE), Jan (2006)

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Additional skills/Activities

FIDE (International Chess Federation) – Chess May 2005 - Present
- Worked as state arbiter till July 2007
- Became Senior National Arbiter in July 2007
- Became FIDE Arbiter in 2009
- International Arbiter Since July 2010. Received 'A' grade in 2015
- Total performance in FIDE events – 121. (Chief-85, Dep Chief – 2, Sector – 3, Deputy – 19, Arbiter – 11, Assistant – 1) other than norms required for FA and IA titles. Three major FIDE events, 23 Norm events.

- Other than FIDE events acted as CA, DCA or arbiter in more than 250 events throughout my carrier.
- Acted as Chief Arbiter in CBSE Zonal Selection tournament two times and Maharashtra State School Selection Tournament one time.
- From 2005 became member of Savitribai Phule Pune University (When my son was participating, I have informed and not acted as selection committee member). Given guidance and accompanied Pune University chess team for Inter University Zonal and National event as coach for more than four times.
- Also, when SIU called for selection acted as Selection committee member and Chief Arbiter
- In 2021, passed examination held by AICF – Chess In School (CIS) for training youngsters - "Train the Trainer"
- Trained four players to became FIDE rated player (Since I am working with Pune University – difficult to trained).
- **Assistant Lecturer** for FIDE Arbiter training camp in Mumbai in 2018, Kanpur and Shimla this year.
- One of the **Lecturer** out of eight for training more than 700 enthusiast who want to work as arbiter in online Senior National Arbiter training camp for continuously more than three months. Test is conducted for all. Those passed declared Senior National Arbiter.