




### Principals' Profile

 <b><u>Dr.H.R.Mahadevaswamy</u></b>	<p><b>Dr.H.R.Mahadevaswamy</b>, A result oriented person with 26 Years of proven experience in : Teaching, Invention based research, Intellectual Property creation, filing and licensing, DSP, Image and Video Processing, Software Development, System Test, Automotive Infotainment, Embedded System Setting up &amp; managing offshore development center, Administration, Management</p>	<p><b>principal @jnnce.ac.in</b>  <b>08182-276707/708/709</b></p>
<p><b>Expertise includes:</b> Teaching, Research, Technical leadership, Strategic planning, System Architecting, Algorithm development and Testing of Software applications.</p> <p><b>His selected achievements are:</b></p> <p><b>Effective Administration at JNNCE</b>, started an initiative “Transformation for Excellence” at JNNCE to take the institution to next level, exposure to Outcome Based Education (OBE) and NBA Accreditation, NAAC process.</p> <p><b>Established business</b> in verticals telecom, manufacturing, automotive, industrial technology, security system, starting from business development to operations, authored a about twelve publications in conferences and symposium, established new opportunities in Car Infotainment connectivity leading to setting up a big team, demonstrated Business innovation by forming the highly competent team in DSP, Imaging and Speech , Invited Speaker at Conferences &amp; University events, Task force member at MNC to establish Global research Centre in India.</p>	<p><b>Currently working as Principal</b>  <b>at Jawaharlal Nehru National College of Engineering, Shivamogga</b>( July 2016 – Till now) and working towards building 21<sup>st</sup> century institute with focus on high quality education, research, innovation and entrepreneurship.</p> <p><b>Worked as Group Head</b> - Car Infotainment at Robert Bosch from Apr 2003 – Oct 2012 and Program Manager at Satyam Computer Services Ltd ( Jan 2001 – Apr 2003). Was Faculty at SIT, Tumkur from May 1988 – Aug 1997. Visiting Professor, BITS, Pilani( for WIPRO WASE program) from 2013-2016</p> <p><b>Co-founded a company</b> ‘Applied Invention India Pvt Ltd’ in 2012 and working as Managing Director &amp; CEO. The objective of the company is creation and monetization of IPs. It is 1st of this kind in India to establish IP Commercialization and Consultancy to connect inventions to reach out right companies.</p> <p>Was reaching out to Universities and extending coaching &amp; mentoring of faculty, consulting in creating invention based research and creation of patents.</p>	

<p><b>Education</b></p> <p><b>Ph.D</b> in Engineering (Topic: Fractal &amp; Wavelet Image Compression) from National Institute of Technology, Calicut – 2001</p> <p><b>M.Tech.</b>(Industrial Electronics) from National Institute of Technology,Suratkal, - 1992</p> <p><b>B.E.</b> (Electronics and Communication Engineering) from S.J.C.E., Mysore University - 1987</p> <p><b>Research Area of Interest</b></p> <ul style="list-style-type: none"> <li>• 3D Point Cloud Processing</li> <li>• Virtual Reality (VR)</li> <li>• Imaging technology</li> <li>• Multimedia</li> <li>• Internet of Things (IOT)</li> <li>• Cyber Physical System (CPS)</li> </ul> <p><b>Administrative and Managerial Skills</b></p> <ul style="list-style-type: none"> <li>• Interaction with various Engineering colleges and Universities at the level of Principal/VCs to establish the Intellectual Property Cell and build the invention based research centers and Institutes</li> <li>• Managing team of 140+ with profit &amp; loss account of USD 5 million</li> <li>• Responsible for administration with budgeting, planning, operation for Group</li> <li>• Knowledge of SEICMM and CMMi Level 5Quality Procedure</li> <li>• Team building, motivation and engaging the team members</li> <li>• Taking initiative to learn new technology, and building the team for that</li> <li>• Involved in preparation of Project Proposals on various projects related to Embedded System, DSP, Image Processing, Industrial Automation, Security system , Car Multimedia</li> </ul>	<p><b>Synopsis of Experience</b></p> <ul style="list-style-type: none"> <li>◆ OBE, NBA and NAAC process exposure &amp;experience</li> <li>◆ Well connected to many industry senior persons, companies in India &amp; abroad, Universities in India &amp; abroad</li> <li>◆ Guiding three PhD students ( Four in VTU and one in Jain University)</li> <li>◆ Got funding ofRs. 2.87 Crore over a period of 5 years for setting up NewGen IEDC under the aegis of NSTEDB, DST, Govt. of India</li> <li>◆ Panel member in task force to start research center at Bosch, India</li> <li>◆ Rich experience in setting up various courses at undergraduate, member of board of examiners &amp; studies in autonomous institutes, reviewer for International Conferences, delivered invited talk in workshops</li> <li>◆ Good Experience in Image Processing, Machine Vision System, DSP, Software Engineering, Software Architecture, Embedded System, Network Protocols, Industrial Automation systems</li> <li>◆ Adopt transition, sharing responsibilities, dedication and strong will, positive attitude, willing and capable to absorb new ideas.</li> <li>◆ Visited countries Germany, Portugal, Malaysia for technical discussions for new product development</li> </ul>		
	<p><b>Courses Taught</b></p> <table border="1"> <tr> <td data-bbox="764 1318 1089 1778"> <ul style="list-style-type: none"> <li>• Basic Electronics</li> <li>• Electronic Circuits</li> <li>• Digital Electronics</li> <li>• Digital Design</li> <li>• Digital System Design</li> <li>• Communication System</li> <li>• Microprocessor</li> </ul> </td> <td data-bbox="1089 1318 1401 1778"> <ul style="list-style-type: none"> <li>• Advanced Microprocessor</li> <li>• Digital Signal Processing</li> <li>• Computer Architecture</li> <li>• Software Testing</li> <li>• Software Architecture</li> <li>• Software Quality Management</li> <li>• Software Engineering</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>• Basic Electronics</li> <li>• Electronic Circuits</li> <li>• Digital Electronics</li> <li>• Digital Design</li> <li>• Digital System Design</li> <li>• Communication System</li> <li>• Microprocessor</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Microprocessor</li> <li>• Digital Signal Processing</li> <li>• Computer Architecture</li> <li>• Software Testing</li> <li>• Software Architecture</li> <li>• Software Quality Management</li> <li>• Software Engineering</li> </ul>
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**Prior Assignments**

<b>SI No</b>	<b>Organization</b>	<b>Period</b>	<b>Role &amp; Responsibility</b>
1	Robert Bosch Engineering & Business Solutions Ltd, Bangalore	Apr 03 – Oct 12	Senior Manager (Group Head), responsible for projects in Car Multimedia System, Machine vision system for Industrial Automation and Security System. Lead team with size of 140+ software engineers.
2	Satyam Computer Services Ltd., Hyderabad	Jan 01 – Apr 03	Project Manager, leading teams in DSP and Image Processing area. Pre-sales, business scope study, Proposal making, and System Architecting
3	National Institute of Technology, Calicut	Sep 97- Dec 2000	Research Scholar and developed New algorithms for image compression
4	SIT, Tumkur	Sep 95-Dec 97	Assistant Professor and researcher. IT Education, supervising projects, research and consultancy work. Proposal writing to get funds for various Lab set ups from various sources.
5	SIT, Tumkur	Apr 88- Sep 95	Lecturer in E&C. Teaching, supervising projects, research and consultancy work. Proposal writing to get funds for various Lab set ups from various sources.

**Project Experience**

**Research**

- High speed Fractal Image Compression
- Lossless Image Compression using Integer wavelets
- Face Recognition
- Pattern Matching algorithms
- Virtual Reality for Surgery
- Test Automation for pixel level validation
- OCR for HMI validation in Car Navigation system
- High Speed Serial Communication for PC XT/AT

**Industry**

- Car Navigation system Verification & Validation
- CCTV based Digital Surveillance system
- Image Processing based Spark Plug Inspection
- Machine Vision System for automatic pump inspection
- Bottle Inspection System
- Automatic Inspection of Ampoules
- Automatic Fingerprint Identification System
- Pattern Recognition of Regular Patterns
- Navigation and Guidance Algorithm for All Terrain Road Vehicle

**Academic Projects guided**

Guided around 25 undergraduate and graduate projects

**Professional Membership**

Life Member of IETE, ISTE.

**Awards, Recognition and Achievements**

Dr.Swamy has participated in various competitions, events, conferences and won the prizes.

1. Governing Council Member, BLDE Engg& tech college, Vijayapur( nominated by VTU)
2. 'Switched Mode Power Supply-SMPS' the project done at B.E. is selected for the Seminar cum Exhibition held at Bangalore organized by KSCST, Bangalore during 1988
3. Letter of Commendation from SIT, Tumkur for conducting Free Coaching Classes for benefit of the students of SIT during 1993-97
4. Awarded cash & certificate for contribution in 'Continuous Improvement Process-CIP' at Robert Bosch India during 2005
5. Awarded certificate and cash for contribution made for Knowledge Sharing session at Robert Bosch India during 2007
6. Part of few charitable work and donated books and cash prize for poor students

**Behavioral , Management and Leadership**

Attended many role based training programs and competency enhancement training programs total programs attended are 45 and no: of days are 182.

**Hobbies**

- Reading books, Social Work
- Learning on investment
- Networking/Meeting friends

**Course / Training / Conferences Attended/Organized**

**Technical**

1. Attended the Faculty Development programme for the Teachers at SIT, Tumkur in the following subjects:
  - a. Electronic Devices and Circuits
  - b. Electric Circuits
  - c. Electronic Circuits
  - d. IC's and Applications
  - e. Power Electronics
  - f. Analog and Digital Communications
  - g. Signal Processing
  - h. Advanced Microprocessor
  - i. VLSI Design
2. Attended Summer course on 'Microprocessors' conducted by KREC, Suratkal during 1990
3. Attended Course on Symbolic database conducted by SJCE, Mysore
4. Attended the National Seminar on 'Mechatronics' conducted by KREC, Suratkal during 1997
5. Attended 5<sup>th</sup> International Conference on High Performance Computing held at Chennai during 1998
6. Attended 7th Annual International Software Testing (Redux) Conference at Mumbai during Jan 2008
7. Organized many workshops, Symposium and events at SIT, Satyam Computers, Robert Bosch India
8. Delivered Invited Lecture on License Plate Recognition and Virtual Reality for Surgery at SIT, Tumkur during 2002 and 2008
9. Delivered Key Note Address at National Level Workshop on Intelligent Data Analytics and Image Processing (IDAIP 2008) organized by Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu during Oct 2008
10. Conducted a Workshop on 'Transformation for Excellence' for Associates of Robert Bosch India during 2005
11. Delivered talk on 'DSP and Applications' at Vasavi Engineering College, Hyderabad during 2002.

**Research Publications**

1. H.R.Mahadevaswamy, P.Janardhanan, Y.Venkataramani, "Lossless Image Compression using Wavelets - A Comparative Study", Proceedings of National Communication Conference, NCC'99, IIT Kharagpur, pp.345-352, Allied Publisher, New Delhi, 1999, pp.345-352
2. H.R.Mahadevaswamy, P.Janardhanan, Y.Venkataramani, "Advances in Fractal Image Compression", Proceedings of National Seminar on Artificial Neural Network and Cognition System (ANNCS-98), CUSAT, Kochi, India, pp. 164-167

3. H.R.Mahadevaswamy, P.Janardhanan, Y.Venkataramani, "Fast Fractal Image Compression", Proceedings of National Seminar on Applied Systems Engineering and Soft Computing, (SASESC-2000), Agra, India, March 2000, pp.245-250
4. H.R.Mahadevaswamy, P.Janardhanan, Y.Venkataramani, "Fractal Image Compression of Noisy Images", 7th National Communication Conference, (NCC 2001), IIT Kanpur, India, Jan 2001
5. H.R.Mahadevaswamy, P.Janardhanan, Y.Venkataramani, "Lossless Image Compression using Adaptive Integer Wavelet Coding", Proceedings of National Conference on Technology Convergence for Information, Communication and Entertainment (NICE 2001), Kochi, India, March 2001
6. H.R.Mahadevaswamy, et al., "Image Processing Techniques- All Terrain Road Vehicle (ATRV) Case study", Presented during Colloquium-2002, Satyam Computer Services Limited, Hyderabad, April 2002
7. H.R.Mahadevaswamy, et al., "Intelligent Gate System based on Image Processing", Presented during DSP Fest-2002, Organized by Texas Instruments India, Dec 2002
8. H.R.Mahadevaswamy, "Project Management Success for Strategic Planning and Business Development" presented during Tech Day 2003, organized by Robert Bosch India Ltd., Dec 2003
9. H.R.Mahadevaswamy, et al., "a-ORGANIZATION – DREAM", Dream paper presented during Tech Day 2003, organized by Robert Bosch India Ltd, Dec 2003
10. Applied for Patent "Systems and methods for advertising and monetization in geographic location of an individual/vehicle" vide Indian Patent Application no: 3778/CHE/2013
11. Pavankumar D and Dr.H.R.Mahadevaswamy, "Comparison of different location based tracking & positioning system", 3rd International Conference 2014, Sri Ganesh School of Business Management, Salem, Tamilnadu, India, Feb 2014
12. Pavankumar D, Dr.H.R.Mahadevaswamy, "Quality improvement of tracking and positioning of mobile systems", International Academic Conference on Electrical & Electronics Engineering (IACEEE), Feb 1<sup>st</sup> 2015
13. Anupama H, Dr. S Shanthala, Dr. H R Mahadevaswamy, "Image reconstruction using Compressed sensing- A work in progress", poster presentation at 8th Annual Conference of Karnataka Science and Technology Academy, Nov 2015.
14. Anupama H, Dr. H R Mahadevaswamy, Dr. S Shanthala, Dr, Vasudha, "Compressive sensing based image reconstruction algorithms- A performance review", IJIRT Vol 4 Issue 1, June 2017, ISSN-2349-6002, Pg 369-371
15. Anupama H, Dr. H R Mahadevaswamy, Dr. S Shanthala, Nitin Awasthi, "Convex-Optimization for reconstructing compressed signal using Orthogonal Matching Pursuit", ICCES IEEE Proceedings, ISBN 978-1-5386-4764-6, Oct 2018
16. Anupama H, Dr. S Shanthala, Dr. H R Mahadevaswamy, Sandhya N K, "Image reconstruction using Compressed Sampling matching pursuit", IJRECE Vol. 6 Issue 4 October-December, 2018.