

## PROFILE

**Name** : Dr.D.Santhi  
**Date of Birth** : 06.04.1977  
**Highest Qualifications** : Ph.D.  
**Academic Performance** :



Degree	Programme and Specialisation	Class /CGPA	Month &Year of Passing	Institute/University
S.S.L.C	TN State board	I	April 1992	Nirmala Girls HSS, Madurai
HSC	TN State board	I	April 1994	Kammavar Girls HSS, Kovilpatti.
B.E.	Electronics and Instrumentation	I	April 1999	National Engineering College, Kovilpatti Manonmanium Sundaranar University, Tirunelveli
M.Tech.	Biomedical Engineering	9.1/10.0	June 2005	Indian Institute of Technology, Madras
Ph.D	Image Processing	February 2014		Anna University, Chennai

**Date of Joining** : 05.01.2001  
**Present Status** : Associate Professor (SG)  
**Total Experience** : 16.9 years

Name of the Organization	Position / Designation held	Period		Duration		Total Experience
		From	To	Years	Months	
National Engineering College, Kovilpatti, Tamilnadu	Associate professor (SG)	15.07.2015	Till date	1	11	<b>16.11</b>
	Associate Professor	10.07.2013	14.07.2015	2	0	
	Assistant. Professor (SG)	05.06.2008	9.07.2013	5	1	
	Lecturer	05.01.2001	04.06.2008	7	5	

Bharath Nikethan Engineering College,Andipatti.	Lecturer	05.07.2000	30.12.2000		6	
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### Academic Achievements

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### Sponsored Research Project

<b>Project Title</b>	:	Diagnosis of Diabetic Retinopathy by feature extraction from retinal images
<b>Funded by</b>	:	ICMR, New Delhi
<b>Principal Investigator</b>	:	Dr.D.Manimegalai, Prof. & Head / IT
<b>Co-investigator</b>	:	<b>Dr. D.Santhi</b> Associate Professor(SG)/EIE
<b>Amount</b>	:	Rs13,09,271 (Rupees thirteen lakhs nine thousand two hundred and seventy one only)
<b>Year</b>	:	2012 - 2015

### Short term Courses / Seminars / Conference/ Workshops organized:

S. No.	Title	Period	No.of Participant	Venue
1	ICMR sponsored National Seminar on "Biomedical Engineering" (AMER'08)	28 <sup>th</sup> and 29 <sup>th</sup> March 2008	50	National Engineering College
2	Embedded System and its Application: Research Perception 2008 (ESARP '08)	18 <sup>th</sup> to 20 <sup>th</sup> September 2008	40	National Engineering College
3	CSIR sponsored National Seminar on "Biomedical Engineering" (AMER'11)	17 <sup>th</sup> to 19 <sup>th</sup> March 2011	50	National Engineering College
4	DRDO sponsored Advancements in Medical Engineering towards Research (AMER '11)	5 <sup>th</sup> and 6 <sup>th</sup> August 2011	40	National Engineering College
5	One week hands on training on Embedded System Design	3 <sup>rd</sup> to 8 <sup>th</sup> March 2014	30	National Engineering College
6.	Three days hands on training on Embedded system design conducted by IELEC Systems.	31 <sup>st</sup> July to 3 <sup>rd</sup> Aug 2015	40	National Engineering College
7.	Three days National Level workshop on Formulation of Research and Development Grant Proposals by Scientists and Technologists.	18 <sup>th</sup> to 20 <sup>th</sup> November 2015	55	National Engineering College
8.	Three days hands on training on Embedded system design using PIC and ARM conducted by Einstein Techno Solutions.	1 <sup>st</sup> to 3 <sup>rd</sup> September 2016	50	National Engineering College
9.	Three days hands on training on Industrial Microcontroller conducted by IELEC systems.	17.08.2017 to 19.08.2017	50	National Engineering College

### Expert Lecture Delivered:

S.No	Name of the Institution	Event	Duration	Topic
1.	National Engineering College, Tamil Nadu	Advancements in Medical Engineering towards Research (AMER '11)	5 <sup>th</sup> and 6 <sup>th</sup> August 2011	Diabetic Retinopathy
2.	Maria College of Engineering and Technology, Tamil Nadu	Recent trends and Developments in Bio medical Engineering	12 <sup>th</sup> to 16 <sup>th</sup> May 2014	Medical Image processing
3.	National Engineering College	Chair person for the National Conference RETINA 2015	26.02.2015	
4.	Maria College of Engineering and Technology, Tamil Nadu	Chair person for the International Conference	6 <sup>th</sup> March 2015	
5.	G.Venkataswamy Naidu College, Kovilpatti, Tamil Nadu	Association Inauguration and expert for the seminar	16 <sup>th</sup> July 2015	Research issues in medical image processing
6.	Saradha College for women, Thirunelveli, Tamil Nadu	DST sponsored two days National seminar on Research avenues in multimodal Biometric Authentication.	24 <sup>th</sup> and 25 <sup>th</sup> July 2015	Research issues in image processing
7	Noorul Islam Center for Higher Education Noorul Islam University, Tamil Nadu	Chair person for the Technical session for the IEEE International Conference on circuit power and computing Technologies	18 <sup>th</sup> and 19 <sup>th</sup> March 2016	

### International Journal:

1. **D.Santhi**, S.Karkuzhali, Dr. D.Manimegalai, "Locating Optic Disc center and segmenting Blood vessels in Retinal Images for screening system of Diabetic Retinopathy" International Journal of Research and Reviews in Information Technology .Vol 1 No1 March 2011.
2. **D.Santhi**, Dr.D.Manimegalai, "An efficient approach to locate the optic disc center, blood vessels and Macula in retinal Image." Biomedical Engineering Applications Basics and Communication. Vol. 24, No. 5 , 425\_434– October 2012.  
**DOI: 10.1142/S101623721250038X**

3. **Dr.D.Santhi**, Dr.D.Manimegalai, and S.Karkuzhali., “Diagnosis of Diabetic Retinopathy by Exudates detection using Clustering Techniques”. Biomedical Engineering- applications, Basics and Communications, Vol. 26, No. 6, 2014.  
**DOI: 10.4015/S101623721450077X**
4. **Dr.D.Santhi** and Ms.S.Parvathi., “Segmentation of Bright Lesions in Diabetic Retinopathy Retinal Images”, International Journal of Applied Engineering Research, **ISSN 0973-4562** Vol. 10 No.20, 2015
5. **Dr.D.Santhi**, S.Karkuzhali, Dr.D.Manimegalai “Effective Segmentation of Optic Disc in retinal images for diagnosing eye diseases that leads to blindness”, Biomedical and Pharmacology journal, **ISSN 0974-6242** 427-434 Vol No .01 2015.
6. **Dr.D.Santhi**, R. Kiruthika, Mr.T.Ramakrishnan., “Automatic Detection of Microaneurysm using Local Rotating Cross Sectional Profile Analysis” International Journal of control theory and applications. 8(4), 2015, pp. 1-7.
7. **Dr.D.Santhi**, Dr.D.Manimegalai, Ms.S.Parvathi., S.Karkuzhali “Segmentation and Classification of bright lesions to diagnose the Diabetic Retinopathy in Retinal Images”, Biomedical Engineering / Biomedizinische Technik. Volume 61, Issue 4, Pages 443–453, ISSN (Online) 1862-278X, ISSN (Print) 0013-5585,DOI: 10.1515/bmt-2015-0188, 2016.
8. **Dr.D.Santhi**, S.Dhanuja Shree,A.Selvarathi, D.Shanthi, “SMART PILL DISPENSER” International Journal of Image Processing & Networking Techniques Vol. 1 No. 1 May. 2018

#### **International Conference:**

1. “Location of optical Disc in Retinal Images” by **D.Santhi**, Dr.D.Manimegalai in International Conference on Computational Intelligence and Multimedia Applications 2007(ICCIMA’07), in Mepco Schlenk Engineering College, Sivakasi, Tamilnadu. Conference Proceeding Published by IEEE computer society of India.
2. “Automated detection of Blood Vascular structure in Retinal Images: A Novel Approach” by Dr.D.Manimegalai,K.Vimala,**D.Santhi**, in ISME2009: International Symposium of Management Engineering held at Dalian, China from August 5-7, 2009
3. “An automated method for early detection of Diabetic Retinopathy” by **D.Santhi**,S.Karkuzhali,Dr.D.Manimegalai in International conference on intelligent science & Technology in Sun College of Engineering and Technology on 24<sup>th</sup> & 25<sup>th</sup> March 2011.
4. “Automatic Location of Optic Disc Boundary in Retinal Images” by R. Bhargavi, **D. Santhi** in IEEE International Conference on Computational Intelligence and Computing Research (2012 IEEE ICCIC) from December 18 to December 20, 2012, at Coimbatore, India.
5. **.D.Santhi**, Mr.T.Ramakrishnan, Mr.K.Muthukkutti and Maruthusivarani Presented a Paper on “Comparison of Automatic Blood Vessel Segmentation methods in

- Retinal Images” in the International Conference ‘ICEVENT 2013’ organized by SKP Engineering College, Tiruvannamalai during the period from 7<sup>th</sup> to 9<sup>th</sup> January, 2013.
6. **Dr.D.Santhi**, and Ms.S.Parvathi, Presented a paper, “Detection of Drusen in Retinal Images for the Diagnosis of Diabetic Retinopathy”, International Conference on Explorations & Innovations in Advanced Computing, at National Engineering College, Kovilpatti during 8<sup>th</sup> to 10<sup>th</sup> Jan 2014.
  7. **Dr.D.Santhi** and Ms.J.Kalaivaani, Presented a paper, “Segmentation of red lesions in Diabetic Retinopathy”, International Conference on Explorations & Innovations in Advanced Computing, at National Engineering College, Kovilpatti during 8<sup>th</sup> to 10<sup>th</sup> Jan 2014.
  8. **Dr.D.Santhi**, Dr.D.Manimegalai and Ms.Karkuzhali, Presented a paper, “Detection of Fovea and Exudates in color fundus images”, International Conference on Explorations & Innovations in Advanced Computing, at National Engineering College, Kovilpatti during 8<sup>th</sup> to 10<sup>th</sup> Jan 2014.
  9. **Dr.D.Santhi** and Ms.J.Kalaivaani, Presented a paper, “Segmentation of red lesions in Diabetic Retinopathy”, IEEE International Conference on Electronics and Communication Systems, at Karpagam College of Engineering, Coimbatore during 13<sup>th</sup> to 14<sup>th</sup> Feb 2014.
  10. **Dr.D.Santhi** and Ms.S.Parvathi Presented a paper, “Segmentation of Bright Lesions In Diabetic Retinopathy Retinal Images”, International Conference on Innovations in Information, Embedded and Communication Systems, at Karpagam College of Engineering, Coimbatore during 13<sup>th</sup> to 14<sup>th</sup> March 2014.
  11. **Dr.D.Santhi** presented a paper entitled “progression of Diabetic retinopathy during pregnancy in type 1 Diabetes” – in women’s world congress, University of Hyderabad, India, August 17-22, 2014.
  12. **Dr.D.Santhi**, S.Karkuzhali, Dr.D.Manimegalai, A.Heber “Diagnosis of Diabetic Retinopathy using Image Processing Algorithms”, presented in DIA-FEST 2014, International Seminar on Diet and Diabetes, Jointly Organized by Sarah Tucker College, Govt Siddha Medical College & Dr.Agarwal Eye Hospital, Tirunelveli, Tamilnadu, INDIA, 17 October, 2014.
  13. **Dr.D.Santhi**, S.Karkuzhali, Dr.D.Manimegalai, A.Heber, “Development of Diabetic Retinopathy during Pregnancy in Type I Diabetes”, presented in DIA-FEST 2014, International Seminar on Diet and Diabetes, Jointly Organized by Sarah Tucker College, Govt Siddha Medical College & Dr.Agarwal Eye Hospital, Tirunelveli, Tamilnadu, INDIA, 17 October, 2014.
  14. **Dr.D.Santhi**, S.Karkuzhali, Dr.D.Manimegalai “Effective Segmentation of Optic Disc in retinal images for diagnosing eye diseases that leads to blindness”, IEEE sponsored International conference on innovations in information Embedded and communication systems, at Karpagam College of Engineering, Coimbatore during 19<sup>th</sup> to 20<sup>th</sup> March 2015.**(ICIECS 2015)**
  15. **Dr.D.Santhi**, G. Suganya A. Geetha, “Detection and Segmentation of Optic Disc from Retinal Images for Glaucoma Diagnosis”, International Conference on Emerging Trends in Engineering and Technology (ICETET 2K16) on 09<sup>th</sup> & 10<sup>th</sup> December 2016.
  16. **Dr.D.Santhi**, S.Dhanuja Shree, A.Selvarathi, D.Shanthi, “SMART PILL DISPENSER” International Conference on Recent Advances in Engineering and Technology (ICRAET-2k18) to be held on 22<sup>nd</sup> and 23<sup>rd</sup> March 2018 at Arunachala College of

Engineering for Women, Manavilai, Vellichanthai, Nagercoil, Kanyakumari District, India.

**National Conference:**

1. "Automated detection of Blood Vascular structure in Retinal Images" by Dr.D.Manimegalai, K.Vimala, **D.Santhi** proceeding of "National Conferences on Recent Advances in Computer Vision and Information Technology" Government College of Technology, Coimbatore, March 8<sup>th</sup> 2009.
2. "Recognition of optic disc center from retinal image using Matched filter for early diagnosis of Diabetic Retinopathy" by **D.Santhi** ,S.Karkuzhali, ,Dr.D.Manimegalai in National Conference on Recent Advances in computer Vision & Information Technology in Government college of Technology,Coimbatore on 7<sup>th</sup> March 2011.
3. "Recognition of optic disc center from retinal image using Matched filter for early diagnosis of Diabetic Retinopathy" by **D.Santhi** ,S.Karkuzhali, ,Dr.D.Manimegalai in National Conference on Recent Ingenious trends in Engineering in Sree Sowdambika college of Engineering, Chttikurichi on 25<sup>th</sup> March 2011.
4. "Discrimination of cervical cells for scrutiny of cervical cell" by Dr.D.Santhi, V.Soundravalli in National conference on Recent trends in Instrumentation application (RETINA'15) in National Engineering college, on 26<sup>th</sup> and 27<sup>th</sup> February 2015.
5. "Automatic Nucleus cytoplasm segmentation and classification of pap smear images" by Dr.D.Santhi, J.Sobana in National conference on Recent trends in Instrumentation application (RETINA'15) in National Engineering college, on 26<sup>th</sup> and 27<sup>th</sup> February 2015.
6. "Segmentation and classification of cervical cells" by Dr.D.Santhi, V.Soundravalli and J.Sobana in National Conference on Frontiers in Applied Science and Computer Technology(FACT'15) in National Institute of Technology, Tiruchirappalii on March 6 and 7, 2015.
7. "Segmentation and classification of pap smear images" by Dr.D.Santhi, J.Sobana and V.Soundravalli in National Conference on Frontiers in Applied Science and Computer Technology(FACT'15) in National Institute of Technology, Tiruchirappalii on March 6 and 7, 2015.

**Industrial Training:**

- Participated 5 days industrial training at iwave system Technologies Pvt ltd. Bangalore, from 24<sup>th</sup> may to 28<sup>th</sup> may 2016.
- Participated 2 days industrial training at EdGate Technologies private limited, Bangalore during 14/05/2018 and 15/05/2018
- Participated 1 day industrial training at TENET TECNETRONICS Private limited, Bangalore on 16/05/2018
- Participated 2 days industrial training at NGX Technologies Private Limited, Bangalore, during 17/05/2018 and 18/05/2018

**International / National Seminars/ Workshops/Symposium Attended**

- Participated in AICTE sponsored short term training program on “Primer Course in Biomedical Engineering” from 31<sup>st</sup> May 2004 to 5<sup>th</sup> June 2004 Organized by IITM, Chennai.
- Participated in Two day National level workshop on “Recent trends in High Voltage Engineering and Technology” on January 19-20, 2007 Organized by National Engineering College.
- Participated in one day workshop on “Outcome based Technical Education” on July 25<sup>th</sup>, 2007 Organized by National Engineering College.
- Participated in one day National level workshop on “Recent trends in Insulation Engineering” on 1<sup>st</sup> September 2007 Organized by National Engineering College.
- Participated in one day National level workshop on “Ignite the minds of Biosignal Engineers towards Research” on 2<sup>nd</sup> October 2007 Organized by National Engineering College.
- Participated in one day workshop on “Soft computing Techniques SCT 07” on 10<sup>th</sup> October 2007 Organized by National Engineering College.
- Participated in “A two day progressive PH.D aspirants meet on Research Excellence” during 23<sup>rd</sup> & 24<sup>th</sup> November 2007 Organized by Department of Computer science Engineering, National Engineering College.
- Participated in one day DST sponsored seminar on “Image and video processing and analysis” on 5<sup>th</sup> December 2007 Organized by Department of computer applications, National Institute of Technology, Tiruchirapalli.
- Participated in one day Workshop on “Embedded System Design with 8051, PIC&ARM” on 15<sup>th</sup> December 2007 Organized by Electronics and Instrumentation Engineering Department, National Engineering College.
- Participated in two day National Level Seminar on “Advancements in Medical Engineering towards Research” on 28<sup>th</sup> and 29<sup>th</sup> March 2008, Organized by Electronics and Instrumentation Engineering Department, National Engineering College.
- Participated in short term training programme on “Advances in optical fiber Technology and Networks” from 26<sup>th</sup> to 30<sup>th</sup> May 2008, Organized by Electronics and Communication Engineering Department, National Engineering College.
- Participated in two day National Level Seminar on “Recent Trends in Real Time video Data Analysis and processing ” on 14<sup>th</sup> and 15<sup>th</sup> November 2008, Organized by Department of Computer science Engineering, National Engineering College.

- Participated in three day workshop on “Graphical system design using Labview for researcher and Engineer” from 11<sup>th</sup> to 13<sup>th</sup> March 2009, Organised by Electronics and Instrumentation Engineering Department, National Engineering College.
- Participated in three day National Level Seminar on “Grid computing” on 24<sup>th</sup> November 2009, Organized by Department of Electronics and Communication Engineering, National Engineering College.
- Participated in one day workshop on “FPGA &ASIC design flow” from 11<sup>th</sup> to 13<sup>th</sup> March 2009, Organised by Electronics and Instrumentation Engineering Department, National Engineering College.
- Participated in three day National Level Seminar on “Research issues on Biomedical Signal Processing and Instrumentation” from 24<sup>th</sup> to 26<sup>th</sup> February 2010, Organized by Department of Electronics and Instrumentation, National Engineering College.
- Participated in one week training on “DCS and PLC” from 5<sup>th</sup> to 9<sup>th</sup> October 2009, Organized by Department of Electronics and Instrumentation Engineering, National Engineering College.
- Participated in two day workshop on “Soft computing Techniques” on 11<sup>th</sup> and 12<sup>th</sup> February 2010, Organised by Mepco schlenk Engineering College, Sivakasi.
- Participated in one day workshop on “LATEX” on 15<sup>th</sup> November 2011, Organised by Dr.Sivanthi Aditanar college of Engineering, Tiruchendur.
- CSIR sponsored National Seminar on “Advancements in Medical Engineering Towards Research”, conducted by National Engineering College, K.R.Nagar during the period from 17-19<sup>th</sup> March 2011.
- Participated in one day workshop on “Media Security: A set Theoretic framework for Data Hiding” on 29<sup>th</sup> August 2012. Organised by Computer Science and Engineering, National Engineering College.
- Participated in two day workshop on “Image Processing using MATLAB” from 19<sup>th</sup> & 20<sup>th</sup> October 2012.Organised by Information Technology, National Engineering College.
- Participated in two day workshop on “Statistical and soft computing Techniques for Image Processing” from 1<sup>st</sup> & 2<sup>nd</sup> November 2012, Organized by Department of Electronics and Communication Engineering, P.S.R. Engineering College, Sivakasi.
- Participated in three day National Seminar on “Research issues on Non Destructive Evaluation RINDE’13 ” from 19<sup>th</sup> & 21<sup>st</sup> September 2013, Organized by Department of Electronics and Instrumentation Engineering, at National Engineering College



- Participated one week hands on training on Embedded System Design conducted by Falcon Square (Innovative Technology), Coimbatore, organized by Dept. of EIE at National Engineering College, during 03.03.2014 to 08.03.2014.
- Participated “Workshop for Training of Evaluators / Resource Persons on Outcome Based Accreditation Phase – I and Phase – II” , organized by NBA and National Engineering College March 5th 2014 and March 14th to 16th 2014,
- Participated “Workshop for Training of Evaluators / Resource Persons on Outcome Based Accreditation Phase – I and Phase – II”, organized by NBA and National Engineering College, June 7th 2014 and June 14th to 16th 2014.
- Participated in the 17<sup>th</sup> ISTE TN&P section Annual Convention sponsored by DST during Novmber 7<sup>th</sup> and 8<sup>th</sup> 2014 in Natio0nal Engineering College.
- Participated Hands on MATLAB training on “statistical methods and data analytics for researchers” conducted by SCS India, Tirunelveli 7-8 March 2015.
- Participated Hands on MATLAB training on “Soft computing Techniques in signal and image for machine learning Applications” conducted by SCS India, Coimbatore 14-15 March 2015.
- Participated one day workshop on “Intellectual Property Rights and Innovations” on November 7<sup>th</sup> 2015 at National Engineering College
- Formulation of Research and Development Grant Proposals by Scientists and Technologists (FRDGP ‘15) 18.11.2015- 20.11.2015 at National Engineering College
- Participated AICTE sponsored seminar on “Research Perspectives and Challenges in Instrumentation Aspects of Internet of Things (IoT’17)” during 25.10.17-27.10.17 at National Engineering College

#### **GIAN course**

Attended the GIAN Course on “Innovative Digital Tools Enabled Product Design” at IIT Madras during 05.02.2018- 09.02.2018.

#### **NPTEL Course**

- Successfully completed NPTEL Online course on “Introduction to Research” Jan to Feb 2016
- Successfully completed NPTEL Online course “Outcome based pedagogic principles of effective teaching” Jan -Feb2017

#### **Referee**

- Reviewer in Elsevier - Computers in Biology and medicine journal, Netherlands
- Reviewer in Biomedical Engineering/ Biomedizinische Technik, Germany
- IET Image Processing.

### **Membership in Professional Bodies :**

Indian Society of Technical Education (ISTE)  
Institution of Engineers (IE)

### **Prizes, Medals and other Honours received**

- Honorarium received from the college for project funded by ICMR.

### **Additional Responsibilities held in Institution :**

- Associate Warden in Ladies Hostel – 2013 onwards
  - Administrative and Maintenance work
- Academic Council Member for the National Engineering College (Autonomous)
- Board of studies member for EIE department (Autonomous)
- Youth Red Cross (YRC) incharge
  - Blood donation camp
  - Blood group identification camp
  - Fire service demo
- Women's day coordinator in 2008.
- Interview arrangement committee convener (2 years)
- Consumable Incharge in the department (2005-2008)
- Digital Lab Incharge 2008 onwards (purchased approximately 4.5 lakhs)
- Time table Committee convener – 2009 – 2012. (3 years)
- As a convener and member actively participated in various committee like NBA, Alumni, Autonomous, college day, Graduation day Sports day etc
- Actively participated in various department works like Project co – coordinator for PG project, placement coordinator, Tutor, Class incharge etc.