

## S. Aruna Mastani

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**Summary:** Enthusiastic and motivating professional dedicated to inspire students towards academic excellence and research. Strongly believes that a teacher is a nation builder.

**Highlights:** Innovative Thinker, Inspiring Lecturer and Ever Researcher and Mentor.

- Areas of Expertise: Digital System Design; Image Processing.
- Instrumental in maintaining the laboratories of ECE department and have knowledge of VLSI design tools and MATLAB (Image processing).
- Subjects Handled: 1. Digital image processing, 2. Structural Digital System design, 3. VLSI, 4. Electromagnetic Waves & Transmission lines, 5. Linear and Digital ICs 6. Signals & systems 8. Data communication etc. and Presently handling Networks signals & systems (II B.Tech) and Structural Digital System Design ( M.Tech) Signals and Systems Lab ( II B.Tech)

### Accomplishments:

- Published around 50 research papers in reputed Journals and conference proceedings.
- Guided one PhD (awarded), whose part of the work . “ **CNTFET based biosensor 8 x 8 array with three Back gate bias potentials, current mirrors and Differential amplifier for maximizing current and voltage in Cervical cancer detection**” is filed for patents Indian Patent, Ref. No. E12/306/2016/CHE, Application No. 201641018534A, CBR No. 11631, dated on 30-05-2016.
- Another PhD a , whose work “ **A Memory based Multi-operand adder**” and “ **A Novel MAC-Accumulator**” are made patent filing, the application numbers are ‘ 201941024136A’ and ‘ 201941025685A’ respectively .
- Guided 25 B.Tech. projects and 26 M.Tech. in Digital Image Processing and VLSI
- Completed one Mini UGC project titled “ Intelligent Streetlight monitoring system” along with Prof. M.N. Giriprasad as main investigator.
- Presently Guiding 3 PhD scholars and 10 post graduates in their projects
- Organized training programmes for students and attend FDP/ workshops to keep myself updated

### Experience:

Worked at various cadres starting with Assistant professor to Professor at “Intell Engineering College, Anantapur” from 2001 to Jan 2011;

With much slang towards research, entered the JNTUA , University , Anantapuramu as Assistant professor in Feb.2011 and to till date as Assistant professor .

### Education:

**Ph.D :** JNTUA University, Anantapur - in Faculty of ECE (2010)  
( New Subspace Learning Methods for Face Recognition)

**M.Tech.:** JNTUA University, Anantapur – Digital Systems and Computer Electronics (2002)

**Orientation course /Refresher course/ Workshops/ Seminars attended:**

- One week TEQIP-III sponsored Faculty Development Programme on “**Achieving Excellence in Engineering Education**” at CSDEC The Institution of Engineers (India),HP State Centre, Shimla, conducted from 24-05-2018 to 28-05-2018.
- One day Webinar/Expert Lecture on “**Effective Teaching Methodology**” organised by Department of Civil Engineering, Pillai HOC College of Engineering and Technology (PHCET), Rasayani on 5<sup>th</sup> may 2020.
- One week online Faculty Development Programme on “**Exemplary Practices in Teaching-Learning and Evaluation Of Courses In Computer Science & Information Technology**” jointly organised by Visvesvaraya Technology University’s Centre for Postgraduate Studies, Kalaburagio and Indian Institute of Information Technology ,Allahabad from 3-8-2020 to 7-8-2020.
- Three day national level online Faculty Development Programme on “**New Perspectives in Mathematics and Their Relevance to Science & Technology**” held in Department of Mathematics, JNTUA College of Engineering, ananthapuramu, from 02-09-2020 to 04-09-2020.
- One week online Faculty Development Programme on “**Personal Effectiveness**” organised by AICTE Training And Learning (ATAL) Academy from 2-11-2020 to 6-11-2020.
- One week Public Training at Rajiv Gandhi National Institute Of Intellectual Property Management, Nagpur from

**Organized:**

Worked as Coordinator for Three day development programme on “**intellectual property rights: an overview**” organised by JNTUA College of Engineering, Ananthapuramu from 9-09-2020 to 11-09-2020.

**Special Assignments:**

- Placement officer from 2015 -17
- Carrier Counseling Cell, Coordinator 2016-17
- Hostel Dy. Warden from 5/9/2018 – till date
- Grievance redressal cell Coordination from Feb. 2020 to till date.

**Technical publications:**

- S. Aruna Mastani and Dr. K. Soundararajan. “Local Adaptive Histogram Matching for Illumination Invariant Face Recognition System”. International journal of Engineering Research and Industrial applications, Vol.1, No.3, 2008.(ISSN-0974-1518) .
- S. Aruna Mastani and Dr .K. Soundararajan. “Double Discriminant Analysis”. International journal of Computer science and Network Security, Vol.9, No.2, Feb 2009. (ISSN 1738-7906).
- Dr. S. Aruna Mastani. “An Unsupervised Active Classification Technique for Face Recognition” International Journal of Engineering Science and Technology , Vol. 2 (5), 2010, 1073-1077 (ISSN 0975–5462) .

- Dr. S. Aruna Mastani and Dr.K.Soundararajan.“Contrast Enhancement & Illumination Normalization using Retinex based Multi-Resolution technique for Face recognition.” Research Journal of Engineering Sciences and Technologies . Vol. 4, Issue1 (ISSN 0974–2824).
- Dr. S. Aruna Mastani. “Biased Discriminant Active Classification Technique” International Journal of Mathematical Sciences and Engineering Applications Vol.5 No.2 , March 2011. (ISSN 0973-9424) .
- M. Devika, Dr. S. Aruna Mastani “Fast Processing Pattern Correlators for Network Intrusion Detection” International Conference on Computing and Communication Technology, May 2012.
- K. Silpa, Dr. S. Aruna Mastani “ Comparison of Image Quality Metrics” International Journal of Engineering Research & Technology Vol. 1 Issue 4, June - 2012 ISSN: 2278-0181.
- M. Devika, Dr. S. Aruna Mastani “Fast Processing Pattern Correlators for Network Intrusion Detection” in Proceedings of the international Conference on Computing and Communication Technology, May 2012.
- N. Sujith Kumar and Dr. S. Aruna Mastani “ Simplified Radix-8 Booth Encoded Modulo Multiplier using RNS” in Proceedings of the National Conference on Computing and Intelligence Systems (NCCIS2012), October 12 - 13, 2012. pp.98- 101. ISBN: 978 - 81 - 905709 - 3 – 0.
- N. Narmada1, D. S. Aruna Mastani “ Face Recognition using CCA on Nonlinear features” International Journal of Engineering Sciences & Emerging Technologies, Vol.4, Issue 1, Dec. 2012 pp: 108-115 , ISSN: 2231 – 6604.
- S. Aruna Mastani “Kernel Approach of Linear Methods Through KPCA” International Journal of Advance Computing, Vol.46, Issue 3, Aug. 2013 pp: 1297-130 , ISSN: 20511 – 0854 .
- Dr. S. Aruna Mastani “ Reduced Merge FSM Pattern Matching Algorithm for Network intrusion Detection System” International Journal of Recent Trends in Engineering and Technology , Vol.10, No.2, Jan. 2014. pp: 117-122 DOI: 01.IJRTET.10.2.522 © Association of Computer Electronics and Electrical Engineers, 2013.
- Dr. S. Aruna Mastani and B. Adichenchaiah “ Self – Checking approach for reducing soft errors in states of FSM” in Proceedings of the National Conference on Recent Trends In Electronics and Communication Engineering (RTECE-2014), March 14 - 15, 2014.
- K. Silpa, and S. Aruna Mastani “ A new Approach for estimating PSNR-B for Deblocked Images ” International Journal of Advances in Engineering & Technology Vol. 7 Issue 1, March - 2014 ISSN: 2231 -1963.
- Dr. S. Aruna Mastani and P. Sreenivas, “ Analysis of Image Matching Algorithms” International Journal of Electronics Communication and Computer Engineering. Vol. 5, Issue 3, ISSN : 2249– 071X,

- GOPINATH. P.G., Dr. S. Aruna Mastani and Dr. V.R. Anitha. “MEMS Micro cantilevers Sensor Modes of Operation and Transduction Principles” International Journal of Computer Engineering Science (IJCES) Vol. 4 Issue 2 (February 2014) ISSN : 2250-3439.
- GOPINATH. P.G., Dr. V.R. Anitha and S. Aruna Mastani. “Design and Characterization of Various Shapes of Microcantilever for Human Immunodeficiency Virus Detection” International Journal of Research in Engineering and Technology(IJRET) Vol.3 Issue 10, Oct.2014, ISSN:2319-1163.
- GOPINATH. P.G., Dr. S. Aruna Mastani and Dr. V.R. Anitha. “Optimum Design and Analysis of Rectangular Microcantilever for Human Immuno Deficiency Virus Detection”, Journal of Biomedical and Pharmaceutical Research Vol. 3, Issue 5, 2014 ISSN 2279-0954.
- Dr. S. Aruna Masthani, S. Kannappan “Design of High Speed Multiplier Architecture with Reduced Complexity”, in the proceedings Of International Conference on Emerging Trends in Science and Cutting Edge Technology, (ICETSCET-2014)” Sep. 27, 28, 2014 . and also in the special issue of International Journal of Advanced Technology in Engineering and Science ISSN (online): 2348 –7550.
- GOPINATH.P.G., Dr.V.R. Anitha and S. Aruna Mastani. “ Microcantilever based Biosensor for Disease Detection Applications” Journal of Medical and Bioengineering Vol. 4, No. 4, August 2015.
- Chesti Altaff Hussain, Dr.D.Venkata Rao, Dr.S.Aruna Mastani ; “Low Level Feature Extraction Methods For Content Based Image Retrieval” in the proceedings of IEEE conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO), 24-25 Jan. 2015 ISBN: 978-1-4799-7676-8 DOI: [10.1109/EESCO.2015.7253924](https://doi.org/10.1109/EESCO.2015.7253924)
- K.Kusuma., S. Aruna Mastani “ A Novel Technique for Inter-Core ccommunication in Multicore processor” in the Proceedings of International Conference on Advances in Signal Processing and Communications–2K15 (NECICASPC-2K15), 13th – 14th July, 2015.
- K.Praveen Kumar Reddy, S. Aruna Mastani, “ Implementation Of High Performance 64-Bit Mac Unit For DSP Processor” in the Proceedings of 11th International Conference on Instrumentation, Electrical And Electronics Engineering (ICIEEE 2015), 25 th OCT. 2015.
- S. Aruna Mastani, K.Kusuma “ Hybrid Vs Memory-To-Memory Communication In Multi-Core Processor” in the Proceedings of 13th International Conference On Cloud Computing Computer Science And Advances In Information Technology (ICCCIT 2015) 13 th December 2015.
- G. Amaranageswarao ,S. Aruna Mastani, “ Blind Estimation Of Linear Motion, Non-Linear Motion And Out-Of-Focus Blur Parameters For Natural Image Deblurring” In the international Journal of Science Engineering and Technology Research ‘Vol.04, Issue.4, August-2015; ISSN 2319-8885; Pg.:6899-6902.

- K. Kodhanda Pani, S.Aruna Masthani, “Video Enhancement for Intra and inter Frame Quality of a Video” in the International Conference on Emerging Trends in Engineering Research 13 th Oct.2015; ISBN No. 978-1514782-128;
- T.Sharanya, S.Aruna Mastani, “Design of Low-Power Explicit type Pulse trigger Generator for Flip-Flops” Vth IEEE International Conference on Communication and Signal Processing , April 6 -8 th 2016, ISBN No. 978-1-5090-0395-2/16
- Chesti Altaff Hussaina, D. Venkata Rao, S. Aruna Masthani, “Robust Pre-processing Technique Based on Saliency Detection for Content Based Image Retrieval Systems “International Conference on Computational Modeling and Security (CMS 2016)
- R. Sreevalli, S. Aruna Mastani “A Literature Study on “Site Specific Crop Management System Using Internet of things June 2016” International Conference on Recent Trends in Engineering, Science and Technology 2016, 1 June 2016, Hyderabad, India  
Elsvier Energy Proceedia
- Chesti Altaff Hussaina, D. Venkata Rao, S. Aruna Masthani, “Wavelet Transform based Image Retrieval System by using Interactive Genetic Algorithm” IEI Annual Technical volume 2016.
- E. Keerthi, S. A. Mastani and S. S. Pillai, "Design and implementation of digital compensation method for the drooping sine response of Sigma Delta ADCs," 2017 International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET), Chennai, 2017, pp. 2304-2308.  
doi: 10.1109/WiSPNET.2017.8300171
- GOPINATH.P.G., Dr.S. Aruna Mastani and Dr.V.R. Anitha. “Design of Interface Circuit and Biosensor Fabrication using Inkjet Printer for the Detection of Glucose” Indian Journal of Science and Technology, Vol 9(45) Dec. 2016, ISSN 0974-5645; DOI: 10.17485/ijst/v9i45/104015 Impact 0.16
- GOPINATH.P.G., Dr.S. Aruna Mastani and Dr.V.R. Anitha. “ modeling and Simulation of Carbon Nanotubes based FET for cervical Cancer Detection,” International journal of innovative research in science , Engineering and Technology , ISSN(online) 2319-8753, ISSN (print) :2347-6710, Vol.5, No.7, Pp No. 13817-13823, July 2016, ( DOI: 10.15680/IJIRSET.2016.0507207
- GOPINATH.P.G., Dr.V.R. Anitha and S. Aruna Mastani “Biomarker Detection and Classification of Cervical Cancer using DNA HPV Signatures”, Journal of Chemical, Biological and Physical Sciences, JCBPS; Section B; August 2016 – October 2016, Vol. 6, No. 4; 1107-1114. E- ISSN: 2249 –1929.
- GOPINATH.P.G., Dr.V.R. Anitha Dr.S. Aruna Mastani Design and Charecterstics study of nanowire based Biosensor for cervical Cancer Detection,” International journal of Recent Scientific Research, ISSN: 0976-3031, Vol.7, No.7, PP: 12487-12491, July 2016

- GOPINATH.P.G., Dr.V.R. Anitha Dr.S. Aruna Mastani “ Design of biosensor array with current boost and signal conditioning circuit for HPV detection” Alexandria Engineering Journal, Elsevier 2017
- T.S. Akheel, V.Usha shree, S..Aruna Mastani “Survey On Face Recognition Systems- Methods And Analysis” International Journal Of research , Vol 4 issue 6 Aug.2017 ISSN: 2358-795X
- Gopinath. P.G., V. R. Anitha and S. Aruna Mastani , “Design and Simulation of High Sensitive Paddle Microcantilever Sensor for Biosensing”, International conference on Energy, Communication, Data Analytics and soft computation(ICECDS-2017), , 1 st & 2nd August 2017. SKR Engineering College, Chennai , ISBN :CFP17M55-PRT/978-1-5386-1886-8, pp no. 290-293
- M. Divya1, S. Aruna Mastani2 and VPS Naidu3 “Real Time Image fusion using Multi Resolution Discrete Sine Transform”, International Journal of Engineering Research and Applications (IJERA),ISSN: 2248-9622, Vol. 7, Issue 11, ( Part -1) November 2017.( UGC 47088)
- S. Nagaraj, Dr.G.M. Sreerama Reddy, Dr.S. Aruna Mastani, “Analysis of different Adders using CMOS, CPL and DPL logic”, IEEE conference 2017
- Kannapa and S. Aruna Mastani , “A Novel Multi-operand Adder Design using Multiplexers 2017 IEEE International Conference on Computational Intelligence and Computing Research DOI: 978-1-5090-6619-3/17/\$31.00 ©2017 IEEE 239
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- T. Madav. Brahmadesam S.A.K. Jilani, S.Aruna Mastani , Video Frame Interpolation by Selective Block Processing at the Receiver “IEEE International Conference on Innovative Technologies in Engineering 2018(ICITE OU)
- Patra Suresh Reddy, S. Aruna Mastani, “On Timing Closure: Hold-Violation Removal using Insertion of Buffers, Inverters and Delay Cells”, “International Journal of Recent Technology and Engineering (IJRTE)”, ISSN: 2277-3878, Volume-7 Issue-4, November 2018.

- S. Nagaraj, Dr.G.M. Sreerama Reddy, Dr.S. ArunaMastani, “A Comparative Study on Different Multipliers-Survey”, Journal of Adv Research in Dynamical & Control Systems, Vol. 10, 14-Special Issue, 2018( scopus indexed)
- Brahmadesam T. Madav , S. A. K. Jilani, S. ArunaMastani,“Correlation Based Low Complex Video Frame Interpolation”,International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019.
- Saikumar T 1,a, S ArunaMastani, “A Review on Video Enhancement Methods and Algorithms for haze removal”,Journal of Engineering, Computing and Architecture,Volume 10, Issue 2, 2020.
- .S. Kannappan,.S. Aruna Mastani,“A Survey On Multi-Operand Adder”,Acta Technica Corviniensis – Bulletin Of Engineering [E-Issn: 2067-3809].
- S.Nagaraj, Dr.G.M. Sreerama Reddy, Dr.S. Aruna Mastani, “Analysis Of Mac Unit For Conventional Cmos And Low Power Cpl & Dpl Logics”,Journal Of Critical Reviews,Issn-2394-5125 Vol 7, Issue 6, 2020.
- Papisetty Veera kishore, S. ArunaMasthani, Dumpala Raghuv eer Reedy, Kasturi Suresh, “Analysis of Clock trees for optimization through Multi point Clock Tree Synthesis”,International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8 Issue-5, January 2020.
- Chesti Altaf Hussain.Dhulipalla Venkata Rao, S. Aruna Mastani, “RetrieveNet: a novel deep network for medical image retrieval”,Evolutionary Intelligence <https://doi.org/10.1007/s12065-020-00401-z>, 11 April 2020.
- S.Aruna Mastani , Riyaz Ahamed .Shaik, “Inexact Floating Point Adders Analysis”, International Journal of Applied Engineering Research ISSN 0973-4562 Volume 15, Number 11 (2020) pp. 1075-1080, Feb.2021.
- B. Nadimulla, S. Aruna Mastani, “Adjustable PRPG For Low Power Test Patterns”, International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-9 Issue-6, March 2021.
- Dr. S. Aruna Mastani, G. Kaveri, ” Literature Survey On Evolution Of Parallel Lfsr’s For Cyclic Redundancy Check”, Journal of Information and Computational Science ISSN: 1548-7741 Volume 11 Issue 4, April 2021.
- Dr. S.Aruna Mastani, Chitraprabha.G, “Design And Analysis Of An Optimized Approximate Adder”, Solid State Technology ISSN: 0038-111X Volume: 64 Issue: 2, 2 May 2021.
- M. Zaheer Ahamed, S.Aruna Mastani , “Comparative Analysis on Factors Affecting Accuracy of Seizure Detection Using EEG Signal Processing”, Proceedings of the 2<sup>nd</sup> International Conference on Computational and Bio Engineering, Lecture Notes in Networks and Systems 215, [https://doi.org/10.1007/978-981-16-1941-0\\_5](https://doi.org/10.1007/978-981-16-1941-0_5).

#### **Membership in Professional bodies :**

Member of Indian Society for Technical Education - LM 58085

Life Member, Institution of Engineers (India) M- 144407-1

Life member of IJERIA

**Personal profile:**

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**Acknowledgements**

The information and particulars given above are true and correct to the best of my knowledge.

Place

Date

(Dr.S. Aruna Mastani)