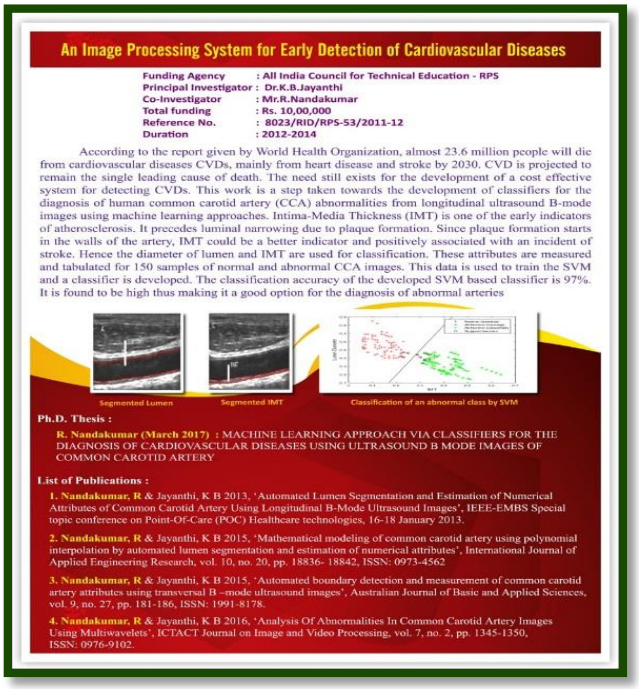
AWARDS & ACHIEVEMENTS

Faculty Awards & Achievements

- **Dr.R.NANDAKUMAR received a "BEST TEACHER AWARD" from Junior Chamber International (JCI- Erode) in the year of 2018.**

- **Dr.R.NANDAKUMAR received a fund worth of Rs.10,00,000 from AICTE-RPS, New Delhi for the project of "An Image Processing System for Early Detection of Cardiovascular Diseases" as a Co-coordinator.**



An Image Processing System for Early Detection of Cardiovascular Diseases

Funding Agency	: All India Council for Technical Education - RPS
Principal Investigator	: Dr.K.B.Jayanthi
Co-Investigator	: Mr.R.Nandakumar
Total funding	: Rs. 10,00,000
Reference No.	: 8023/RID/RPS-53/2011-12
Duration	: 2012-2014

According to the report given by World Health Organization, almost 23.6 million people will die from cardiovascular diseases CVDs, mainly from heart disease and stroke by 2030. CVD is projected to remain the single leading cause of death. The need still exists for the development of a cost effective system for detecting CVDs. This work is a step taken towards the development of classifiers for the diagnosis of human common carotid artery (CCA) abnormalities from longitudinal ultrasound B-mode images using machine learning approaches. Intima-Media Thickness (IMT) is one of the early indicators of atherosclerosis. It precedes luminal narrowing due to plaque formation. Since plaque formation starts in the walls of the artery, IMT could be a better indicator and positively associated with an incident of stroke. Hence the diameter of lumen and IMT are used for classification. These attributes are measured and tabulated for 150 samples of normal and abnormal CCA images. This data is used to train the SVM and a classifier is developed. The classification accuracy of the developed SVM based classifier is 97%. It is found to be high thus making it a good option for the diagnosis of abnormal arteries

Segmented Lumen | Segmented IMT | Classification of an abnormal class by SVM

Ph.D. Thesis :

R. Nandakumar (March 2017) : MACHINE LEARNING APPROACH VIA CLASSIFIERS FOR THE DIAGNOSIS OF CARDIOVASCULAR DISEASES USING ULTRASOUND B MODE IMAGES OF COMMON CAROTID ARTERY

List of Publications :

1. **Nandakumar, R** & Jayanthi, K B 2013, 'Automated Lumen Segmentation and Estimation of Numerical Attributes of Common Carotid Artery Using Longitudinal B-Mode Ultrasound Images', IEEE-EMBS Special topic conference on Point-Of-Care (POC) Healthcare technologies, 16-18 January 2013.
2. **Nandakumar, R** & Jayanthi, K B 2015, 'Mathematical modeling of common carotid artery using polynomial interpolation by automated lumen segmentation and estimation of numerical attributes', International Journal of Applied Engineering Research, vol. 10, no. 20, pp. 18836- 18842, ISSN: 0973-4562
3. **Nandakumar, R** & Jayanthi, K B 2015, 'Automated boundary detection and measurement of common carotid artery attributes using transversal B -mode ultrasound images', Australian Journal of Basic and Applied Sciences, vol. 9, no. 27, pp. 181-186, ISSN: 1991-8178.
4. **Nandakumar, R** & Jayanthi, K B 2016, 'Analysis Of Abnormalities In Common Carotid Artery Images Using Multiwavelets', ICTACT Journal on Image and Video Processing, vol. 7, no. 2, pp. 1345-1350, ISSN: 0976-9102.

- **Dr.W.DEVA PRIYA received a grant-in-aid worth of Rs 21, 68,839 from AICTE, New Delhi to establish the Skill and Personality Development programme Centre (SPDC) as a co-coordinator in the year of 2020.**

- **Dr.W.DEVA PRIYA received a Best Innovation Practices Award from IIC , KSRIET in the year of 2019.**

- **NPTEL – 3 faculty attained Top 5% score & 12 faculty obtained Elite grade.**

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

TOP TOPPER 2%

This certificate is awarded to

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for successfully completing the course

Digital Image Processing

with a consolidated score of 87 %

Online Assignments	25.00/25	Proctored Exam	61.5/75

Total number of candidates certified in this course: 800

A. Goswami

Prof. Adrijit Goswami
Dean, Continuing Education & NPTEL Coordinator
IIT Kharagpur

Jul-Oct 2019
(12 week course)

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL19EE55S51310534

To validate and check scores: https://nptel.ac.in/noc

- **9 members completed IIRS certificate courses.**

भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA

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CERTIFICATE OF COORDINATION

यह प्रमाणित किया जाता है कि के एस आर इंजीनियरिंग और प्रौद्योगिकी संस्थान कार्यरत श्री आर नंदकुमार, ने "वनों के सुदूर संवेदन में प्रगति" विषय पर इस संस्थान द्वारा दिनांक 05 मार्च, 2019 से 13 मार्च, 2019 तक संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम को समन्वित किया।

This is to certify that DR. R.NANDAKUMAR, working with K S R INSTITUTE FOR ENGINEERING AND TECHNOLOGY, has coordinated the online training course on "Advances in Forest Remote Sensing" conducted by this institute during March 05, 2019 to March 13, 2019.

दिनांक/ Date: 02-07-2019
देहरादून/ Dehradun

प्रमुख,
विशेषज्ञ सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग
Head, Geoweb Services, IT & Distance Learning Department, IIRS

समूह प्रमुख,
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह
Group Head, Geospatial Technologies & Outreach Programme Group, IIRS

Publication :

- ❖ **Journal papers - 54**
- ❖ **Conference papers - 118**
- ❖ **Patent - 6**