

Biodata

Name: SUDHEESH R S

Date of birth: 06-05-1975

Qualification

Degree	University	Institution	Month & year of acquiring the degree
B.Tech (Mech. Engg.)	Calicut University	NSS College of Engg. Palakkad	October 1996
M.E (Engg. Design)	Bharathiar University	PSG College of Technology Coimbatore	February 2001
Ph.D	Indian Institute of Technology Madras	Indian Institute of Technology Madras	27.11.2013

Work Experience

Worked as Asst. Professor in Mech. Engg. In Govt. Engg. Colleges in Wayanad, Calicut and Thrissur for 19 years. Experienced in teaching a variety of Mechanical Engineering subjects such as Mechanics of Solids, Advanced Mechanics of Solids, Finite Element Methods, Computer Programming, Engineering Mechanics, Engineering Graphics etc.

Worked in the field of software development of CAD (Computer Aided Design) using C++ for a period of two years after acquiring M.E. This involved coding for development of softwares to translate CAD files from one format to another.

Worked as engineer with India's leading petrochemical industry for a period of one year.

Ph.D thesis:

PhD was completed under QIP from IIT Madras in the year 2013. The work involved analysis of welds using finite element methods. The study included numerical solutions to transient coupled thermo- mechanical problems involving material and geometric nonlinearities. The project work was funded by the Department of Science and Technology, New Delhi.

Sponsored Projects:

Development of Thermal Tomography for the Detection of Breast Cancer and Predict the Size and Location of Cancerous Tissue

Period: 12.06.2018 to 11.12.2020

Sponsoring Agency: Medical Electronics and Health Informatics Division, Ministry of electronics and Information Technology

Collaborating Agency: C-MET, Thrissur

Total Project Outlay: Rs.55.67 Lakhs

List of International Journals

1. Sudheesh R S. and N. Siva Prasad(2010), '*Studies on residual Stress and distributes in TIG Welding of thin plates with trailing heat sink*', Acta Mechanica Solida Sinica. Vol. 23 S.1, pp.109-114
2. Sudheesh R S and N. Siva Prasad(2011), '*Finite element study of residual stresses and distortions in arc welding with a trailing liquid nitrogen heat sink*', International Journal of Numerical Methods for Heat & Fluid Flow. Vol. 21 No. 8, 2011, pp. 1050-1065
3. Sudheesh R S & N. Siva Prasad(2013), '*Comparative study of Heat Transfer Parameter estimation using Inverse Heat Transfer models of a Trailing Liquid Nitrogen Jet in Welding*'. vol. 36, issue 2, pp. 178-185
4. Sudheesh R S and N Siva Prasad(2014), '*Parametric Studies on Effect of Trailing Liquid Nitrogen Heat Sink on TIG Welding of Steels*', Advanced Materials Research Vols. 875-877 (2014) pp 1595-1599.
5. Anoop K C and Sudheesh R S (2016), '*Experimental and Numerical Investigations in Friction Welding of Tube to Tube Plate using an External Tool*', international journal on Recent & Innovative trends in technology, Vol.2, Issue 2, PP. 11-16.
6. Nimmy, Arathy, Linta, Sudheesh, Muralidharan, Sateesan, Seema (2021), '*A Computational Method for the Estimation of The Geometrical and ThermoPhysical Properties of Tumor using Thermometry*', ASME Journal of Medical Devices, Vol.15, 030102-1 to 030102-10.
7. Aswathy A Narayanan, R S Sudheesh (2021), '*Optimization of Tribological Properties of An Epoxy Hybrid Polymer Composite Reinforced with Zrb₂ and PTFE Particles using Response Surface Methodology for High-Temperature Tribological Applications*', Materials and Technology 55(60), 799-807

List of International Conferences

1. K M Peethambaran, Sudheesh R S and N Asok Kumar, *Eco-Friendly Refrigeration systems Analysis Using Simulation Techniques at the 2nd International Congress of Chemistry and Environment, Indore, 2005.*
2. K M Peethambaran, Sudheesh R S and N Asok Kumar, *Energy Economy Analysis of Household Refrigeration Systems in view of the Alternative Refrigerants at the 2nd National Conference on Recent Trends in Renewable Energy Technology, 2005.*
3. Sudheesh R S and N Siva Prasad *Finite element study of residual stresses and distortions in arc Welding with a trailing liquid nitrogen heat sink at the Workshop on Recent Progress in Heat and Fluid Flow Research Bangalore, 2010*
4. N S Lakshmi, Sudheesh R S and Raja Mohan, *Flux Cored Arc Welding Process Parameter Optimization using Grey Based Taguchi Method at the 3rd International Conference on Materials for the Future Innovative Materials, Processes, Products and Applications (ICMF), Thrissur, 2013.*
5. M Shafikh and R S Sudheesh, *Parameter Optimization using Genetic Algorithm in Gas Metal Arc welding of Mild Steel at the 3rd International Conference on Materials for the Future Innovative Materials, Processes, Products and Applications (ICMF), Thrissur, 2013.*
6. Shibu M P, Sudheesh R S and Bindu M D “*Simulation of Austenite to Ferrite Transformation during continuous cooling in Low carbon steel using Cellular Automata (CA) model, factura, national level PG Research Conference on Emerging trends in manufacturing NSS College of Engineering Palakkad, 2016.*”
7. Sachin Prakash K and Sudheesh R S, “*thermal analysis of thin sheets in Dissimilar metal welds*”, *factura, national level PG Research Conference on Emerging trends in manufacturing NSS College of Engineering Palakkad, 2016.*
8. Mathews Joseph and Sudheesh R S, ‘*Studies on the Effect of Welding Parameters in LASER Spot Welding using ANSYS APDL*’, *International Conference on Systems, Energy and Environment - ICSEE 2016, 05- 06 August 2016, Organized by Centre of Excellence in Systems, Energy and Environment Government College of Engineering Kannur.*
9. Abil Joseph Eapen and Sudheesh R S, *Simulation of Beta-Alpha Transformation on Ti-6Al-4V using Cellular Automata, International Conference on Engineering and Technology-2017.*
10. V. John, M. K. Nithilan, S. Mita, H. Tehrani, R. S. Sudheesh and P. P. Lalu, *SO-Net: Joint Semantic Segmentation and Obstacle Detection Using Deep Fusion of Monocular Camera and Radar, Image and Video Technology, PSIVT 2019 International Workshops, Sydney, NSW Australia, Nov.18-22, 2019*

11. Joseph Abraham, Lalu P P, Sudheesh R S, Review On Dual Arm Robotic Manipulator For Assembly Operation, *Proceedings of the International Colloquium on Recent Trends in Engineering (IC@MACE)-2020*
12. Abhishek, Lalu P P, Sudheesh R S, Vision Based Detection of Butt Weld Joints for Robotic Arc Welding, *Proceedings of the International Colloquium on Recent Trends in Engineering (IC@MACE)-2020*
13. Sam Geogi, Umarali K, Lalu P P, Sudheesh R S ,A Deep Neural Network Approach For Detecting Surface Defects In Hot Rolling Process, *Proceedings of the International Colloquium on Recent Trends in Engineering (IC@MACE)-2020*
14. Binoy T A , Jayasree N, Lalu P P, Sudheesh R S, Soft Robotic Grippers: State of The Art, Characterisation , Fabrication Materials and Actuation Concepts, *Proceedings of the International Colloquium on Recent Trends in Engineering (IC@MACE)-2020*
15. Siji John, Sinith.S, Sudheesh R S, Lalu P P, Classification of Indian Classical Carnatic Music using Deep Learning, *2020 IEEE Recent Advances in Computational Systems.*
16. Lince P Mathew, Binot T A, Sudheesh R S, Lalu P P, Abdul Samad, Finite Element Analysis of a Bio-inspired Soft Vacuum Actuator, *Proceedings of the international conference on systems, energy and environment 2021, GCE Kannur.*
17. Aswathy A Narayanan and R S Sudheesh, Experimental study and optimization of thermal and tribological properties of epoxy hybrid polymer composite reinforced with micro sized ZrB₂ and PTFE particles, *IOP Conference Series: Materials and Engineering, ICETEST 2020, GEC Thrissur.*
18. Irfan Ahammed, Aswathy A Narayanan and R S Sudheesh, Estimation of effective young's modulus based on 3-D finite element model with particle-matrix interface for metal matrix composites, *IOP Conference Series: Materials and Engineering, ICETEST 2020, GEC Thrissur.*

Details of Online courses completed:

PLATFORM: COURSERA

1. Mathematics for Machine Learning (Specialisation consisting of 3 courses):
 Conducted by : Imperial College London
 - (a) Linear Algebra
 - (b) Multivariate Calculus
 - (c) Principal Component Analysis

2. Introduction to Tensorflow for Machine Learning, Artificial Intelligence and Deep Learning

Conducted by: deep learning.ai

3. Convolutional Neural networks in Tensorflow

Conducted by: deep learning.ai

4. AI for everyone

Conducted by: deep learning.ai

5. Crash Course on Python

Conducted by: Google

PLATFORM: SWAYAM

6. NPTEL-AICTE online course on Practical Machine Learning with Tensorflow.

Conducted by: IIT Bombay

Details of STTPs Coordinated

1. Faculty Development Programme on FINITE ELEMENT ANALYSIS USING ANSYS, December 2012.

2. Short Term Training Programme on FINITE ELEMENT ANALYSIS USING ANSYS, December 2013.

3. Short Term Training Programme on FINITE ELEMENT ANALYSIS USING ANSYS, January 2017.

4. A hands on training on robotics and automation for polytechnic staff, Jan 2019

Resource Person

Presented sessions on application of finite elements in different short term courses conducted by Govt. Engg. Colleges.

M.Tech Thesis Supervision

Seby Varghese “Development of image based visual servoing system on a six degree of freedom industrial robot”

Lakshmi N S “Effect of flux cored arc welding process parameters on weld bead geometry and parameter optimization using grey based Taguchi method”

Shafikh M” Parameter Optimization using evolutionary algorithm in Gas Metal Arc welding of Mil Steel

Anoop K C “Experimental and Numerical Investigations on friction welding of tube to tube plate using an external tool”

Sajin Cherian “ Investigation on residual stress distribution in dissimilar metal welds”

Vithu Nath T “Parametric optimization of multi-pass turning process using teaching learning based algorithm”

Mathews Joseph “Studies on the effect of welding parameters on the Bead Geometry in Laser Spot Welding”

Sachin Prakash K “ Studies on deformation of thin sheets in Dissimilar metal welds”

Shibu M P “Simulation of Austenite to Ferrite Transformation during continuous cooling in Low carbon steel using Cellular Automata (CA) mode”

V. John, M. K. Nithilan S. Mita, H. Tehrani, R. S. Sudeesh, and P. P. Lalu, SO-Net: Joint Semantic Segmentation and Obstacle Detection Using Deep Fusion of Monocular Camera and Radar, PSIVT 2019 International Workshops Sydney, NSW, Australia,

Sponsored Projects

“Development of Thermal tomography for breast cancer detection” in collaboration with Centre for Materials for Electronics, Sponsored by Bioinformatics Division, MEITY.(Ongoing)

Ph.d Supervision

Currently guiding Three Ph.Ds

1. In the field of wear of polymer composites using finite element method.
2. In the field of development of soft gripper for robotic applications
3. Path planning of automated welding robots

Other Achievements:

Obtained a score of 92.61 in GATE 1999.