

Kandasamy Ramkumar

Objective:

A challenging research-oriented Computer Aided Engineering -related position which will utilize my analytical, programming and mathematical skills in the field of static, dynamic(NVH) and acoustic analysis on engineering structures.

Skills Set:

- *FE Analysis Tool* ANSYS ,NASTRAN,SYSNOISE
- *FE Modelling Tool* Por-E, HYPERMESH,ANSA
- *Operating Systems* Unix, Windows 95/98
- *Ford Specific Tools* Vsign, Envision, PIRATE & GPP
- *Others* FORTRAN

Educational Qualification:

- **Ph.D.**, Machine Design Section, Mechanical Engineering Department, IITMadras, Chennai, India, submitted THESIS, JULY 2008.
- **M.E.**, Computer Integrated Manufacturing, CEG campus, Anna University, Tamil nadu, Chennai, Jan.2003.
- **B.Tech.**, Production Engineering, MIT campus, Anna University , Tamil nadu, Chennai, May1997.
- **B.Sc.**, Chemistry, Govt. Arts College, Krishnagiri, Madras University, Nov.1993.
- **H.S.C.**, Govt.Hr.Sec.School, Krishnagiri, March 1990
- **S.S.L.C.** Govt High School,Thogarapalli, March1988

Work experience:

CAE related:

1. Presently working in **Satyam-Venture Engineering Services**, Hyderabad deputed in **Ford Information Technical Services India (FTSI)**, Chennai as a **Sr. Analyst, NVH CAE** from 7th May 2007 to till date.

Following are the types of analysis I have performed in recent time

Hood Fluttering Analysis

This particular analyses performed to identify the root causes of rearward edge of the hood visually fluttering during drive. A 4-Poster sine sweep analysis is performed on two different vehicles and results were discussed.

Analysis of Wheel modes of full vehicle

Investigated the wheel Hop & Tramp modes of full vehicle upto 30 Hz under running/non-running conditions by using HM and NASTRAN and FORD customized tools VSIGN, MORTRAN and eNVISION

Investigation of Trim body and full vehicle modes

Investigated the behaviour of Trimmed body modes up to 40 Hz, Cavity modes up to 200 Hz and component modal participation between 20 to 40 Hz by using HM and NASTRAN and FORD customized tools VSIGN, MORTRAN and eNVISION

Modal and Frequency response analysis of the battery tray of car

Battery tray assembly is analyzed with proper connections and boundary conditions. For modal, free-free vibration has been performed. Later, a dynamic load of 10N with a frequency range of 0 to 200 Hz is applied to the battery tray assembly in longitudinal, lateral and vertical directions.

Others:

2. Sr. Lecturer, Thiruvalluvar College of Engg. And Tech.(TCET), Thiruvannamalai, Tamil Nadu, India from Jan 2003 to May 2004.

3. Lecturer, Thiruvalluvar College of Engg. And Tech.(TCET), Thiruvannamalai, Tamil Nadu, India from 1999 to 2001

Work done in TCET:

- Guided projects like Static and dynamic analysis of engineering structures which includes composite panels by ANSYS
- Buckling analysis of stiffened structures by ANSYS
- Handled a few projects related to CAE based NVH analysis for UG students

Academic project:

Under Graduate

-Study of surface finish by image processing technique.

Post Graduate

-Optimization of wire cut EDM process by genetic algorithm.

Ph.D.

.Vibration, Acoustic, damping and Buckling analysis of thin-walled structures under thermal and mechanical environment by Finite Element Method.

Academic course works done:

Ph.D

-Applied finite elements, -Theory of vibration, -Acoustics and noise control, -Composites, -Mechanics of solids

M.Tech

-Rapid prototyping, -CIM, -FEM, -NDT, -Mechatronics, -Welding

Achievements:

Academic:

- Awarded the Ministry of Human Resource Development (HRD) Govt. of India fellowship during doctoral course.
- Middle school and high school scholarship by Government of Tamil Nadu.

Trainings:

- Attended 10 days In-plant Training at Ashok Leyland Ltd., Hosur, a automobile manufacturing unit.
- Under gone 1 month In-plant Training at Hindustan Aeronautics Limited, Bangalore, Helicopter division.
- Underwent Two weeks software training programme on CAE in Mechanical Design. at CAE lab, Indian Institute of Technology Madras.

Papers presented in the International Conferences:

- Finite element dynamic analysis of hollow sandwich box columns with an electro-rheological fluid core layer.
Tools used: Finite Element FORTRAN code and ANSYS 8.1
Presented in the **international conference on AMPC Aug.2006, Anna University, Chennai.**
- Buckling Behavior of Laminated Composite Box Column under Mechanical and Thermal Loadings
Tools used: Finite Element FORTRAN code and ANSYS 8.1
Presented in the **international conference on ICCMS Dec.2006, IITGuwahati.**

- Influence of Size, Number and Placement of Piezoelectric Actuators for Active Vibration Control in Isotropic Box Structure by ANSYS
Tools used: ANSYS 8.1
Presented in the **conference on current trends in engineering Analysis & Design, DREAMS March.2007, John F.Welch Technology Centre, GE, Bangalore.**
- Vibro-Acoustic behaviour of box type structure by integrated FEM/BEM approach
Tools used: ANSYS 8.1 and SYSNOISE
Presented in the **International conference on CAE, Dec.2007, IITMadras, Chennai.**

Papers published in the International Journals:

- Vibration and Thermal Buckling Analysis of Functionally Graded Thin- Walled Box Column by Finite Element Method
- **The Journal of Materials: Design and Applications, 2008**
- Vibration and Damping of Hollow Sandwich Box Column containing Viscoelastic, Electrorheological fluid and Magnetorheological core with Constraining layer
- **Journal of Structural Stability and Dynamics, in press**
- Vibration and Damping of composite Sandwich Box Column with Viscoelastic / Electrorheological fluid and their performance comparison
- **Journal of Composite Materials: Part B, under review**
- Analysis and design for vibration suppression of laminated composite box structure: Size, Number and Placements of Piezoelectric Actuators.
- **communicated to SAE, under process**

Personal details:

- Father.s Name: P.Kandasamy
- Sex : Male
- Nationality : Indian
- Marital Status : married
- Languages : English(R/W/S), Tamil(R/W/S), Telugu (S)
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References:

1. **Prof.N.Ganesan,**
Machine Design Section,
Mechanical Engineering Department,
IITMadras, Chennai-36.
 2. **Prof.P.Chandramouli,**
Machine Design Section,
Mechanical Engineering Department,
IITMadras, Chennai-36.
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