MONISHA MOHAN

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403 W Nedderman Dr. Apt 15, Arlington, TX 76013

SUMMARY

- ✓ Mechanical Engineer with experience in micro-electronics design and reliability
- ✓ Material characterization of various Printed Circuit Boards for Texas Instruments/SRC project
- ✓ Electronic Package (QFN, BGA, WCSP) Testing and Failure Analysis
- ✓ Thermo-mechanical reliability study of Chip Scale & Quad Flat No Lead Packages (SRC/TI Project)
- ✓ Team-oriented individual who works effectively with all levels of employees in cross-functional teams

AREA OF EXPERTISE

Theoretical/Applied	Experimentation	Computer Language	Software	Corporate Skills	Personal Skills
Electronic Packaging, Advanced Micro-Electronics Packaging, Composite Materials, Micro/Nano Fabrication, Finite Element Analysis, Solid Mechanics, Heat Transfer, Mechanics of Materials	DAQ,TMA, DMA, Environmental Chamber, Universal Testing Machine, MTS tensile tester, Test profiler, Instron, Shimadzu, Drop Tester, Flowtherm, Air flow bench, Accelerated Thermal Cycling(ATC), Digital Image Correlation (DIC), Optical Microscopy, Layer Removal	C,C++, JAVA, HTML	ANSYS, Solid Works including MOTION SIMULATION, CATIA, Pro-E, AUTOCAD, IcePAK, LabView, MATLAB, MS Office Mathematica	Strong verbal and written communication skills, time management, Problem Solving, Good team member and self-motivated individual	Strong math, mechanical, Drafting and Designing skills, Detail Oriented, Well Organized

EDUCATION & TRAINING

MS, Mechanical Engineering (Dec 2015)
University of Texas at Arlington

BE, Aeronautical Engineering (May 2012)
Hindustan College Of Engineering, India

Trainings

Hitachi DMA & TMA | ANSYS Structural Modeling | MS Office |C |C++ | Catia | AutoCAD| Communication Skills | Quality Control

PROFESSIONAL EXPERIENCE

Graduate Research Assistant

University of Texas at Arlington (SRC Project, TI) (Aug 2013-Present)

- Designed a new variety of 3 point and 4 point bend test fixtures for lowering the cost of production and usage
- Solder joint reliability under mechanical bending test on Fr-4 PCB's
- Successfully analyzed the failure mechanism of Wafer Level Chip Scale (WCSP) & Quad Flat No Lead (QFN) packages for Texas Instrument assemblies under thermal cycling
- Experimental strain measurement using strain gauges and DAQ
- Strain Validation from FEA with respect to 4 point bend test experiment
- Determined failure displacement in solder joint using event detector
- Determined thermal/mechanical properties of different micro-electronic package components like PWBs, overmold, etc.
- Successfully setup a material characterization and thermal testing lab at University of Texas at Arlington
- Collaborated with Original Equipment Manufacturers (OEMs) for procurement of testing equipment
- Modeling and simulation of flip chip packages to study thermo-mechanical reliability under different loading conditions
- Efficiently prepare and present technical updates in bi-weekly and monthly meetings with Texas Instruments

Computer Aided Design Laboratory Technical Assistant (Dec 2013 - Present)

- Computer Hardware installation
- Data reconfiguration
- Software installation and Set up
- Network Analysis
- Managing User permissions.

Graduate Teaching Assistant (Jan 2015- May 2015)

- Assisted Professors in creating an effective syllabus
- Taught Classes
- Graded Examination Papers
- Proctored Examinations.

PROJECTS

- Using Piezo-Electric elements to increase production of electricity in Windmills (Fall 2014 Research Project)
- Achieving pattern transfer using photo-lithography and PDMS micro-molding Technique (Fall 2014 Term Project)
- Manufacturing process of semiconductor devices from wafer level to packaging (Fall 2013 Term Project)

INTERNSHIPS

Hindustan Aeronautical Limited, Bangalore, India

Design of propulsion system air intake scoops for the optimization of Drag (Jan 2012)

- Designing of different types of scoops which help in reducing the drag that occurs in a Helicopter during a flight.
- Calculated reduction of drag by installing scoop using computational fluid dynamics.

Design of Air-conditioning and Ventilation System for Single Engine Helicopter (Dec2011)

- Comparison between different types of air-conditioning systems, and calculating exactly which system would be suitable for a single engine helicopter and why.

Madras Flying Club, Civil Aerodrome, Chennai Airport, Chennai, India (Dec 2012- May 2013)

- Complete overhaul and maintenance work for all the systems, subsystems, replacement units and flight controls on Cessna 152 and Cessna 172.

Hindustan institute of Technology and Science, Chennai, India (2011)

- Aerodynamics and propulsion problem analysis and calculations involved in the design of Supersonic Military Interceptor Aircraft
- Design and selection of appropriate Aero foil for wings
- Optimization of the aerodynamic shapes for Primary and Secondary Control Surfaces
- Selection of appropriate power plant
- Calculation of the thrust factors required by the Aircraft

AWARDS

Electronic, MEMS and Nanoelectronics Systems Packaging Center Scholarship Award – 2014 & 2015 (UT Arlington)

PUBLICATIONS

- ✓ Mohan,M., Agonafer, D., “The Relationship Of Life Prediction Between 4 Point Bend Test And Thermal Cycle Testing For Qfn Package”, in the 15th IEEE Intersociety Conference on Thermal and Thermo-mechanical Phenomena in Electronic Systems Conference, Las Vegas ,June 2016 (Abstract Accepted)
- ✓ Ramaraj, S., Mohan ,M., Sanjeeviraja, T., Stanley, D., “Evaluation Strength of Stitched Foam Sandwich Structures”, in the 54th AIAA Structures, Structural Dynamics and materials Conference, Boston, April 2013