# T CHARAN REDDY

Resume

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## OBJECTIVE

Seeking a position to work in challenging and amiable organization with global exposure that extends my theoretical, analytical knowledge and skills with the contribution to the growth of the organization

## EDUCATION

- B.Tech in Mechanical Engineering – **Sri Venkateswara University**, Tirupathi, A.P
- M.Tech in Mechanical Engineering (Machine Design) – **Indian Institute of Technology Madras**, Chennai

## SOFTWARE SKILLS

- ANSYS Mechanical
- Hyper Mesh
- Abaqus
- Dyrobes

## PROFESSIONAL EXPERIENCE

- **Turbo Energy Private Ltd (a unit of TVS group), Chennai**
  **Designation**: Lead Engineer – Engineering R&D
  **Experience**: 1 Year 4 months (Jan 2015 – till date)
  **Roles and Responsibilities:**
    - Analyzing the concepts and giving design modifications for the components like compressor wheel, turbine wheel, compressor housing, turbine housing, bearing housing etc.,
    - Improving the design by doing simulations to support the requirements of customers
    - Studying the existing product library and their test data for understanding the effect of individual geometric parameters
    - Understanding the manufacturing feasibility and implementing them in design stage itself
    - Preparing process definition documentation
    - Coordinating and supporting for NVH and gas stand test teams in different analysis of turbocharger

  **Projects Worked**:
    - Stress and modal analysis of various turbocharger components like compressor wheel, turbine wheel etc., for passenger car and commercial vehicle applications
    - Modal analysis of different type of turbochargers (waste gate and R2S) for various applications
    - Thermo mechanical fatigue analysis for turbine housings
    - Containment analysis for turbine and compressor housings to predict the weakening dimensions of turbine and compressor wheels
    - Rotor dynamic modeling and analysis: Design and analysis of high speed rotor system with fluid film radial bearings (fully floated)
    - Analysis of rotor system to predict rotor stability and rotor responses at various operating conditions
    - Study of synchronous and non-synchronous vibrations of horizontal rigid rotor supported with FFRB (fully floated ring bearing)

- **Indian Institute of Technology Madras, Chennai**
  **Designation**: Project Associate
  **Experience**: 7 months (May 2014 – Dec 2014)
  **Project handled**- "Stress analysis on steam generator tube sheet along with tubes"
  **Client**: BHEL, Trichy
  **Project description**: 3Dmodeling of tube sheet along with its components is carried out using ANSYS. To assess the structural integrity of tube sheet for operational conditions and fatigue requirements various analysis such as structural analysis, transient thermal analysis and coupled analysis were performed.

## M.TECH PROJECTS

Title: **Thermo-Mechanical finite element analysis of Steam Generator Tube Sheet along with tubes**

- Temperature distributions in the tube sheet were generated with the heat transfer coefficients as input to FE model for all the transient conditions
- Coupled analysis (Mechanical and thermal) of tube sheet was carried out with mechanical (pressure) loads along with estimated thermal loads to get variable stresses for all the transient conditions
- Assessed the structural integrity of the tube sheet subjected to stresses of variable amplitudes using Miner's linear cumulative damage rule

Title: **Design and Development of water purifier cum cooler**

## EXTRA-CURRICULAR ACTIVITIES

- Participated in "Cyclone-The Fun Cycling Event" conducted by ***Samanvay***2012 at IIT Madras
- Coordinator for a workshop on "Capability Building" organized for BEML Engineers at IIT Madras
- Member of hostel badminton and swimming teams in IIT Madras