Sarath Ravikumar Saraswathy

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About me: Experienced young dynamic and target oriented Mechanical design engineer with a demonstrated history of working in Product development and Piping system design for Offshore and Onshore projects.

EDUCATION AND TRAINING

16/08/2021 – CURRENT
MASTER OF SCIENCE IN ENGINEERING STRUCTURES AND MATERIALS – University of Stavanger

Major Courses undertaken are Mechanical vibration., Finite element analysis, Fluid dynamics, Computational fluid dynamics, Mechanics of solid, Structural integrity.

01/08/2011 – 01/03/2015 – Palayam, Thiruvananthapuram, India
BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING – University of Kerala

Bachelor degree covered all aspects of core Mechanical Engineering (design, thermal, manufacturing & industrial) to specialization in a specific domain (design, thermal, manufacturing, Industrial, automation, mechatronics, robotics, CAD, CAM, CAE etc.). This is along with ethics, language, cultural & prospective courses from basic to advanced level with theory and practical with hands-on learning and 'learning by doing' approach along with their applicability to build and enhance the career of a professional Mechanical Engineer.

7.49 CGPA | Design and Fabrication of Cabin Rotating Car | https://www.keralauniversity.ac.in/

2009 – 2011
HIGHER SECONDARY EXAMINATION – Kerala State Education Board

93.5%

WORK EXPERIENCE

22/04/2019 – 31/12/2020 – Delhi, India
PIPE STRESS ANALYSIS ENGINEER – PETROFAC ENGINEERING INDIA PVT LTD

Thai Oil Refinery Clean Fuel Project, Thailand: Clean Fuels Project owned by Thai Oil Public Company Limited on the east coast of Thailand, valued around US$4 billion. The project will transform the existing oil refinery in Sriracha, Chonburi, into an environmental-friendly facility, which will produce higher quality transportation fuels. The scope of work encompasses engineering, procurement, construction and commissioning services of Hydrogen Manufacturing Unit (HMU)

- Prepare stress analysis calculation reports through the use of CAESAR II software and 3D Modeling Assistance, incorporating contract specifications and international codes.
- Participate in review and identify requirements and scope of work, review of Piping Material Specifications, Piping & Instrumentation Diagrams, General Arrangement drawings and other relevant documents.
- Participate in the technical evaluation of vendor bid offers, review vendor drawings and documents. Review design calculations; ensure vendor specifications meet with project specifications. ·
- Prepare pipe wall thickness calculations, reinforcement pad calculations, Hydrotest pressure calculation, Trunnion check, Flange leakage check calculation as per ASME B31.3.
- Sign and approve piping isometric drawings issued for construction
- Involved in developing guidelines for piping integrity of prefabricated modules (PAU & PAR) and recommending temporary supports and sea fasteners while transportation.
- Provide piping support loads to civil engineering group, coordinate on technical issues as required.
- Interface and provide clarification and guidance and technical support to construction sites and commissioning engineers

Piping, Pipeline & Systems | Professional, scientific and technical activities | https://www.petrofac.com |

Delhi, India

04/12/2016 – 29/03/2019 – Bengaluru, India
PIPING ENGINEER – PETROPHOENIX ENGINEERING SOLUTION PVT LTD

PETROBRAS FPSO Carioca MV30, Brazil: Floating Production Storage and Offloading vessel operated by Petróleo Brasileiro S.A. (Petrobras) situated in the Sepia Basin, capable of processing 180,000 barrels of crude oil, 212 million standard cubic feet of gas.per day and and has storage capacity of 1,400,000 barrels of crude oil. Deputed to L&T Hydrocarbons, Mumbai from PES in 2018.

Jorf Lasfer OCP Plant expansion, Morocco: OCP, Largest exporter of phosphate, owned Jorf Lasfar Phosphate Hub (JPH) expanding its processing plant's capacity to export increasingly refined phosphate products for use in compound fertilizers. PES scopes includes Detail engineering of Thickener and Clarifier area.

- Preparation of critical line list of piping systems for flexibility analysis and preparing system split mark-up in Piping & instrumentation diagrams.
- Stress analysis of piping system subjected to occasional load like wind, earthquake, Blast explosion, Mechanical Fatigue and to perform failure analysis to judge their fitness for service.
- Perform static and dynamic stress analysis including Thermal analysis, Modal analysis, Blast analysis, Transportation analysis for piping systems subjected to Hogging and sagging of vessel, relative structural displacements, Slug flow, Surge as per DNV recommended practices.
- Flexibility analysis of pipelines connected different equipment like pumps, turbines, vessels, scrubbers, heat exchangers, tanks, column, PSVs, silencers.
- Calculation of Stress Intensification factors for pipe fittings as per ASME B31.3 using FEA software - Nozzle PRO.
- Analysis of Glass Reinforced Epoxy pipes (Buried and Above ground). Creation of stress allowable envelope for qualifying stress in GRE piping system as per code ISO 14692.
- Review vendor catalog to choose the spring and expansion joint (Bellows), review of vendor drawings & preparations of datasheets.
- Checking of piping deliverables like Isometrics drawings, GA drawings, MTOs, Loading data to Civil team ..

Mechanical | Professional, scientific and technical activities | http://www.petrophoenix.com | Bengaluru, India

28/09/2015 – 21/10/2016 – Chennai, India
DESIGN ENGINEER – SEYON ENGINEERING SERVICES

- 3D Solid Modelling of solid parts, sheet metal parts, assemblies and structures using Autodesk Inventor, Solid works, Solid Edge to work out new developments and reverse engineering projects.
- Clean-up the geometry and perform simulation in Ansys, compiled calculation reports with strength analysis results.
- Preparation and checking of fabrication drawings, main assembly drawings, part drawings and bill of material (BOM) with the applications of GD&T and Welding standards
- Control & Release of Manufacturing Drawing, standards, and specifications to shop floor.
- Involved in preparing support standards for water pipes by validating different support configurations and loads.
- Provide technical support for client, vendor, and inter departments.
- Creating reports and presentation on a regular basis for project managers and clients

Mechanical design | Professional, scientific and technical activities | http://www.seyon.com.au/ | Chennai, India

DIGITAL SKILLS

Caesar II | PV Elite | Autocad | SolidWorks | Autodesk Inventor | Autodesk Naviswork | Solid Edge | ANSYS Spacelaim | Autodesk plant 3D | Aveva PDMS | SmartPlant 3D | C++ | Microsoft Excel | Matlab | Ansys (Mechanical & APDL) | NozzlePro | VBA Basics | Microsoft execl

VOLUNTEERING

01/03/2018 – 31/07/2018
Guest Lecturer

Mobility India
Served as Guest lecturer from March 2018 to July 2018 for 4 years Bachelors in Prosthetics and orthotics (BPO) course affiliated to Rajiv Gandhi University of Health Sciences, Karnataka (RGUHS). I was involved in teaching the subject " Applied Mechanics and Strength of materials for 1st year BPO students. Also worked as question paper setter and valuator for RGUHS during this period.
http://mobility-india.org/programmes/education-and-research/bachelor-in-prosthetics-orthotics-bpo/

CREATIVE WORKS

07/2014 – 02/2015
Design and Fabrication of Cabin Rotating car

The project was to Design and Fabrication of Cabin Rotating car, essentially a vehicle with 180-degree rotating cabin on a chassis with detachable steering. This single seater, with two Stroke, single cylinder air cooled eliminates the need for reversing, makes parking easier. My role was to design and analyze the Skelton structure, developing fabrication drawings with welding details, preparation of Bulk MTO and give technical assistance to fabricators. Detail report of the project, structural calculations, fabrication drawings was presented to the panel of professors and was heavily appreciated. During this stint I learned design software like Solid works, Autodesk Inventor, Ansys Mechanical and was drawn to mechanical design field after closely observing the Fabrication and assembling process of your own design.

HONOURS AND AWARDS

Autodesk Certified Professional: AutoCAD 2015 – Autodesk

Certification ID: 00430747
Developed for candidates who have advanced skills and can solve complex challenges in workflow and design.
Requirements: 400 hours to 1,200 hours of relevant Autodesk software experience
https://www.autodesk.com/certification/all-certifications

LANGUAGE SKILLS

Mother tongue(s): MALAYALAM

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
NORWEGIAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user