Abhilash Sankar

Mechanical Engineer, M.Tech. in CAD/CAM

abhisankar2020@gmail.com
(+91) 9497192468

Objective

A dynamic, innovative, performance driven, highly motivated and excellent problem solver with effective management and leadership qualities seeking a position as an engineer to utilize strong technical skills and professional experience.

Synopsis

- Result-oriented and industrious professional with 3+ years of experience in engineering design.
- Adept at handling projects involving both collaborative and individual efforts and have effectively coordinated projects involving multiple and diverse departments like manufacturing and outsourcing.
- Experienced at managing and working on long-term projects from scratch to completion including documentation and ensuring adherence to user requirements and standards.
- Adroit at learning new concepts quickly, working well under pressure and communicating ideas clearly and effectively.

Key Skills

- **Solidworks, CATIA**: Full assembly modelling, integration of subsystems, interference and ergonomic studies and space optimisation.
- **AutoCAD**: Preparation of general assembly and part drawings.
- **Matlab**: Mathematical modelling of physical systems and simulations of vibration problems.
- **Abaqus**: Linear static and structural dynamics analysis of mechanical systems for specialist vehicles.
- **Additional skills**: Knowledge of GA, GD & T and familiarity with ISO/ASME standards and practices including documentation and review procedures.

Achievements

- **Patent filed: Armored four-door low-height crew cabin for trucks**: Novel design of armored crew cabin with improved strategic mobility for achieving PAN India operability. Ab-initio design including optimization of ergonomics and in accordance with STANAG Protection Level standards set by NATO.
- **Patent filed: Leg-based stabilization system for Truck mounted artillery**: Compact leg-based stabilization system for Mounted Gun Systems with higher mobility, compactness and faster deployment capabilities.
- **Paper presentation prize**: Secured 2nd prize for paper presentation in the technical fest *Azure* at Amal Jyothi Engineering College, Kottayam, Kerala.

Professional Experience

- **DRDO - VRDE** — Ahmednagar, Maharashtra
  Research Fellow (Full-time) — *Jan 2018 - Present*
  - **Lead designer**: Was part of project on mounted gun systems and was responsible for configuration and conceptual layout studies and feasibility analysis of multiple prototypes.
  - **CAD modelling**: Worked with multiple CAD software for modelling assemblies, space constraints optimization, integration studies, preparation of drawings and use in structural FEA-based solvers. Was responsible for checking of interfaces, preparation of drawings and interference studies.
  - **Structural and stability Analysis**: Responsible for finite element modelling of components using HyperMesh and preparation of input files for solvers like OptiStruct and Abaqus for static structural and stability analysis.

Technical Projects

- **Stabilisation system design**: Was responsible for design of stabilisation system for truck mounted artillery from the conceptualization phase to prototype design and analysis. Was involved with literature survey, selection and filtering of commercial off-the-shelf equipment and test-rig and fixture design. Utilized CAE software for part design, assembly modelling and structural analysis which resulted in a compact innovative product that successfully met all design requirements.
- **Crew cabin design**: Was member of project that realized an improved crew cabin design for use on armoured trucks. Was responsible for detailed solid modelling of 6-member crew cabin including ergonomic analysis for comfort which evolved into a novel configuration. Gained experience in product design and contributed to enhancing protection and aesthetics of the system, documentation and ensuring adherence to global standards. The resulting work was filed for a patent. Coordinated project review and detailed design review meetings including internal and external committee meetings for sanction and granting of project funding.
- **Transient response from a spherical/cylindrical cavity in an infinite elastic medium**: Performed the mathematical modelling of spherical and cylindrical pressure waves in an elastic medium. Mathematica was used for symbolic computation of equations in time and frequency domains. Postprocessing and validation were performed on Matlab.
- **Design and fabrication of disc brake using composite material**: Developed a disc brake system using Aluminium-based light weight composites as a cast iron substitute; including the design and set up of a centrifugal casting rig as part of bachelor's degree project.

Education

- **National Institute of Technology – Nagpur** — Maharashtra, India
  Master of Technology - Mechanical Engineering; Grades: 85.20% — *July 2014 - June 2016*
- **Government Engineering College – Thrissur** — Kerala, India
  Bachelor of Technology - Mechanical Engineering; Grades: 81.50% — *July 2010 - June 2014*

Personal profile

- **Address**: Mamatha Nivas, North Bazar, P. O. Ollur - 680306, Thrissur, Kerala
- **Date of birth**: 17 Oct 1992
- **Languages known**: English, Hindi, Malayalam
- **Hobbies and interests**: Music, travelling
- **Details of passport**: M4308867 valid till 15 Dec 2024

References

Bharat Kushwaha
Scientist F
Vehicles Research and
Development Establishment
Ahmednagar - 414 006, India
(+91) 9970847805
bharatkushwaha@vrde.drdo.in

Vikram Saini
Scientist F
Research and Development
Establishment (R&DE)
Pune - 411 015, India
(+91) 8412038883
vikramsaini@vrde.drdo.in

Pankaj Verma
Scientist E
Vehicles Research and
Development Establishment
Ahmednagar - 414 006, India
(+91) 9850713611
pkverma@vrde.drdo.in