

## UDHAYAKUMAR A K

B.E - Mechanical

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### Snapshot

- An energetic professional with **8 Years** of experience in Design & New Product development.
- Currently designated as **Assistant Manager**.
- Strong skills to design & develop technical product solutions considering manufacturing engineering, functional, fit & finish requirements.
- Gained exposure in managing entire product design and development operations with key focus on bottom line profitability by ensuring optimal utilization of resources.
- Sound experience in the application of GD&T and Tolerance stack up.
- Comprehensive knowledge and experience in detailed engineering activities.
- Experienced in product research and global benchmarking of competitor vehicles for the Material details & performance requirements.
- Well versed in vehicles testing procedures and standards as well as designing vehicle components.
- Good command on the entire Product Development process & proto building activities.
- Successfully conducted BOM Preparation, Product Life Cycle Management and component validation.
- Familiarization in CMVR, ARAI Regulations requirements.
- Excellent communication & interpersonal skills with proven abilities in resolving complex issues.

### Technical Tools

- Modeling/ Detailing : Pro/E Wildfire, Creo, Catia V6, NX Cad, Solid works & AutoCAD
- FEA : Ansys (Basic), Creo Mechanica & Creo Simulate.
- PDM/PLM : Windchill and Teamcenter

### Process Exposure

- MIG & TIG Weldings, Sheet Metal Laser cutting
- CNC Sheet Metal Bending, Punching
- High pressure Die casting, Forging
- Sheet Metal drawing process
- Investment Casting, Injection Molding
- Sheet Metal CED, Powder coating process, Aluminum Anodising process

### Professional Experience

#### Royal Enfield

Royal Enfield is an Indian motorcycle manufacturing brand with the tag of "the oldest global motorcycle brand in continuous production" manufactured in factories in Chennai in India.

|                        |                      |                  |
|------------------------|----------------------|------------------|
| Senior Design Engineer | April 2017- Nov 2021 | 4 Years 7 Months |
| Assistant Manager      | Dec 2021- Till Now   |                  |

### Responsibilities

- Experience in various motorcycle bodywork packaging parts design and development from concept generation to final complete design.
- Responsible for the design & development of chassis & accessories components from Concept design to Field issues resolutions.
- Initial CREO simulation for the concept created to verify load stress distribution and identify stress graph against the yield strength and fatigue life of the component.
- Design evaluation/confirmation with Prototype product build. Industrial design team interaction for A surface approval.
- Discussion with suppliers for initial DFM and initial tool trail audit and verify receiving gauge and welding fixtures etc.
- Responsible for HPDC simulation review for porosity and air entrapment study.
- Homologation activity for DOT approval for product sales US.
- Benchmarking products study for new concept creation.
- Working across the various departments, functions, and multiple suppliers to understand and deliver the best design based on quality/time/cost.
- Responsible for implementation of corrective action based on test builds (ED1, ED2, Alpha,...)
- Contributing to the department by the development of DVP, working standards, best practice procedures, GD&T, stack-up calculations etc.
- Responsible for interaction with the homologation team for VCA approval for EUROPE, USA, and INDIA markets.
- Industrial design team discussion to finalize the A surface.
- Rapid prototyping the products and verifying the design from industrial design and product strategy teams.
- Generate ideas through benchmarking, Initiate engineering changes for new products.
- Tolerance stackup and Bolted joints calculation to verify from initial concept stage.
- Proto design and development before final product development.
- Ability to interact with the ID team, CAE, Testing, SQA, Suppliers for new product development.
- Knowledge in homologation regulations for motorcycle parts.
- CAE analysis to verify the different loading and dynamic conditions of the product.
- Product fit and function verification on motorcycles from Engineering design to final production of motorcycles.
- Follow up with the test team for different tests of products such as Fitment test, vibration shaker, PAVE, On road durability, Bump rig, Two poster etc.
- Discussion with the Homologation team for Accessory certification activity.
- Supplier visits for DFM discussion and product development discussion.
- Cross functional team discussion for product cad level packaging and concurrent design changes.
- Support for Alpha, Beta, Pilot, SOP Vehicle builds.
- Market study by visiting Rider mania events, bike rides, local markets and different accessory markets to understand the requirements of customers.
- Targets and ensured accuracy of the deliverables on Homologation and Statutory requirements.
- Leading resolutions as a first-level responder on problem-solving techniques and design optimization, along with Benchmarking, Warranty Analysis, Cost Reduction, VA VE, and technical specifications.

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### Automotive Robotics, Inc

Automotive Robotics, Inc. Is a leading provider of engineering solutions and engages

with its counterparts in the client organization throughout the product development lifecycle.

- ❖ Team : Reman Fargo
- ❖ Client : Caterpillar
- ❖ Environment : CREO Modeling, Detailing & Team center.
- ❖ Designation : Design Engineer
- ❖ Duration : March 2015 to March 2017

### Responsibilities

- Working for the Remanufacturing (salvage) engine, transmission and axle components team.
  - Interacting with clients and receiving ECO (Engineering Change Order) & ECR (Engineering Change Request) from the process partner.
  - Understanding the scope and the requirements.
  - Receiving the inputs and creating the salvage operation.
  - According to the scope, the design is modified and updated with the changes in EDS.
  - Worked in BOM Creation and as a Change Analyst managing the Workflow Management of the Engineering Change Order (ECO).
  - Used a Teamcenter (PLM) system for ECO (Engineering Change Order) creation, reviewing routing, tracking, releasing and distribution.
  - Shipping stand creation for engine components.
  - Conversion of Raster drawing to 3d models.
  - Automation using an Autohotkey app script for repetitive windows tasks.
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### Astra Global Pvt, Ltd

Astra Global Pvt. Ltd. is a precision sheet metal manufacturing industry, a wholly owned subsidiary of Astra Metal Systems Pvt. Ltd., using sophisticated CNC machines, as well as regular sheet metal fabrication machinery.

- ❖ Team : New product development
- ❖ Environment : CREO, CATIA Modeling, Detailing & SAP.
- ❖ Designation : Design Engineer
- ❖ Duration : October 2014 to February 2015

### Responsibilities

- Design and development sheet metal components using Autocad and Pro-Engineer.
- Detailing Process drawing, Machining layouts, Assembly drawings and Exploded view by using CREO.
- Creating Bill of Materials, Exploded view & Simple Rep for assembly purpose.
- Reverse Engineering of Sheet metal components and developing a proto model for production.
- Production follow up for proto development

### Projects Executed

- 1) Passbook Vending Machine
  - 2) Eram Scientific E-toilet
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### General Surgical Pvt Ltd

An ISO 9001-2008 Surgical Company is a leading Manufacturer and supplier in India, Chennai.

- ❖ Team : New product development
- ❖ Environment : PRO-E 3.0 Modeling, Detailing & SAP.
- ❖ Designation : Design Engineer
- ❖ Duration : April 2013 to February 2014

### Responsibilities

- Designing of Surgical Instruments using Autocad and Pro-Engineer.
- Detailing Process drawing, Machining layouts, Assembly drawings and Exploded view by using Pro-E.
- Creating Bill of Materials, Exploded view & Simple Rep for assembly purpose.
- Conversion of 2D autocad drawing into 3D model using Pro-e
- Reverse Engineering of surgical components.

### Academia & Affiliations :

- Bachelor of Mechanical Engineering from MNM Jain Engineering College, Chennai in 2012 with 78% marks (7.84 CGPA).
- Higher Secondary Examination from St. Joseph Matriculation Higher Secondary School – State board, in 2008 with 75% marks.
- Secondary School Leaving Certificate from St. Joseph Matriculation Higher Secondary School - State board, in 2006 with 71% marks.

### Personal Profile

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|-------------------|---|
| Gender            | : Male  |
| Languages Known   | : English, Tamil.                                       |
| Nationality       | : Indian  |
| Marital status    | : Single  |
| DOB               | : 03/03/1990  |
| Permanent Address | : 1/127, Bramanar street, Arungundram, Ranipet -632509. |
| Current Address   | : R1/1, 230kv, TNEB Quarters, Chennai-600080.           |
| Passport Number   | : Z4260418 (Valid till 2027)                            |

### Declaration

I assure you that the above details furnished by me are true to the best of my knowledge.

Place: Chennai

Udhaya kumar A K