

Ashwin Puthan Purayil

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QUALIFICATION

SUMMARY

- 8+ years of experience in the design and development of sheet metal & plastic parts.
- 2+ years of experience in the proto build of chassis systems, interiors of cars and trucks.
- Awarded scholarship to pursue Masters in Mechanical Engineering.

WORK EXPERIENCE

TOOGAN TECHNOLOGIES (ONSITE OUR NEXT ENERGY)

Sr. Product Engineer-Battery Structure

August 2023 – November 2023

- Design & Release
 - Designed & released battery energy storage system components.
 - Managed 3D data, drawings & BOM using SOLIDWORKS, NX & TEAMCENTER.
 - Defined permanent/mechanical joints by selecting welding method, fasteners & sizing.
 - Identified fastener and inserts selection, torque strategy and sequence.
- Sourcing
 - Identified supplier to source parts based on expertise & lead time.
 - Developed source package after supplier interaction.
 - Created purchase requests after analyzing RFQ from the suppliers.
- Launch
 - Performed quality inspections to ensure parts meet the specifications.
 - Designed locating templates to help manufacturing in assembly.
 - Identified issues and performed root cause analysis to solve problems in the line.

NEXT HYDROGEN

Product Design Engineer

June 2023 – August 2023

- Implemented design changes for electromechanical systems using SOLIDWORKS.
- Conducted testing & validation of cooling tubes for thermal shock.
- Optimized designs of electrolyzer components for cost and manufacturability.
- Performed tolerance stack-up analysis and torque study to establish design specifications.
- Performed experiments to mitigate environmental corrosion on current carriers.
- Designed and validated feedwater tubes for even distribution of water and KOH.

ALTAIR ENGINEERING (ONSITE TOYOTA MOTOR NORTH AMERICA R&D)

Design Engineer

January 2019 – May 2023

- Worked on the skid plate that brought 135k savings on trucks using CATIA.
- Designed & developed back panel for 2022 Tundra, side bumper & rear spoiler for 2024 Tacoma.
- Worked on the Assembly of prismatic HEV Lithium-Ion batteries for Toyota vehicles.
- Lead a team of 2-5 people for the build of chassis & worked on autonomous retrofit.
- Team Lead for redesigning conveyance system to reduce assembly build lead time.
- Contributed ideas for kaizen activity, which was implemented & funded by the company.
- Worked on the development of Lexus Kinetic seat.
- Team leader for the assembly of 2024 Toyota Camry & 2024 Toyota Tacoma prototype build.

GOKEN AMERICA (ONSITE HONDA R&D AMERICAS INC)

Design Engineer I

February 2015 – January 2019

- Designed & developed BIW components of Honda & Acura vehicles using CATIA.
- Worked in the part consolidation of roof structure components using Tailor Welded Blank.
- Participated in the topology optimization studies for BIW structures.
- Improved NVH performance by controlling the foam using resin structures at B pillar.
- Performed tolerance stack-up analysis and created engineering documents.

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VOLVO CONSTRUCTION EQUIPMENT

Design Engineer (Internship)

September 2013 – December 2014

- Designed & developed metal & plastic parts of Motor Grader & Wheel loader using CREO.
- Achieved \$2000 cost saving on the entire product line by utilizing VB Script & SAP data.
- Utilized PDM (SmarTeam/Windchill) to manage bill of materials, solid models & drawings.
- Released Design Change Notices, components into production by collaborating with attribute leads, cross-functional engineering and manufacturing teams
- Worked in the DFMEA and benchmarking projects.
- Assisted the engineering team in the design & durability improvement by utilizing Finite element Analysis (FEA), kinematics and dynamic analysis.
- Automated tasks in CATIA & Microsoft Excel using Visual Basic (VB)
- Revised product standards for Tier 4 final machines.

CADD CENTRE

Instructor

May 2012 – July 2012

- Conduct trainings on CATIA, ANSYS & NX CAD (Unigraphics NX)
- Explain drawing creation/projection methods & GD&T
- Maintain expertise in subject area and recommends improvements in curriculum design.
- Prepare presentation for lectures and obtain materials needed for the course.
- Deliver lectures and answer student's questions regarding the course & software.
- Conduct labs and assist students in their assignments.
- Grade student's final project and assignments.

INDIA PISTONS LIMITED

Internship

January 2011 – March 2011

- Improved productivity by performing ergonomic evaluations & time studies.
- Prepared detailed documentation of manufacturing process.
- Conducted time and method studies in manufacturing process.
- Conducted cost analysis and material inspection.
- Researched on wear mechanism, hard turning and induction hardening process.
- Conducted various experiments by changing machine parameters to find optimum combination of machine parameters that improve tool life.
- Researched on material coating to improve too life improvements.

EDUCATION

ROCHESTER INSTITUTE OF TECHNOLOGY, Rochester, NY

Sep 2012 - Dec 2014

- Masters of Engineering, Mechanical Engineering. GPA: 3.8/4.00
- Awarded scholarship to pursue Masters in Mechanical Engineering.
- Worked as Graduate Teaching Assistant for FEA Lab.

CADD CENTRE, India

July 2011 - March 2012

- Master Diploma, Product Design and Analysis.

ANNA UNIVERSITY, Chennai, India

August 2007 - May 2011

- Bachelor of Engineering, Mechanical Engineering **FIRST CLASS**

PERSONAL PROJECTS

- Developed controller using Raspberry Pi, Python, sensors & actuator to maintain reef tank.
- Developed enclosures and support structures for various home projects using 3D printer.
- Online tutoring for engineering students & small business owners in Autodesk Fusion 360.