Vinay Anand Bhaskarla

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Professional summary:

- An experienced Design Engineer with 10 years in the Automotive industry with expertise in BIW (Body in White) Under body and Upper body, sheet metal product design & development.
- Ability to execute new-vehicle development programs from initial concept to final vehicle production (SOP) & delivering project gateway targets per given time, cost, weight, and quality parameters.
- Worked for OEMs like Hyundai Motors, Ford Motor Company, Fiat Chrysler Automobiles and Rivian Automotive which gives me experience working with cross functional and multi-cultural teams globally.
- Proficient in using the latest CAD software like Catia V6, 3Dx, Catia V5, and PLM tools including Teamcenter, Enovia, WERS and programming tools like python, and familiar with generative AI.
- Master's degree in automotive systems engineering from University of Michigan, Dearborn, USA.
- Currently pursuing online Masters in computer science (OMSCS) from Georgia Tech, Atlanta, USA.
- Strong communication skills along with problem solving capability makes me a very good team player.

Professional Experience:

Nissan Technical Center- Farmington Hills, MI, USA (Goken America). ***September 2024- Present***

Design Release Engineer (Materials) ***Tools- NX11/Catia V5/DVPR/Python***

- Working on flex sourcing strategy for materials from different suppliers for cost saving initiative.
- Created tools for mechanical properties and chemistry comparison between different flat steel grades using python that aid in flex sourcing strategy.
- Working on steel coil width optimization for reducing the scrap at mill level for cost savings.
- Worked on flat steel material approvals for grade changes.

Rivian Automotive- Irvine, CA, USA (L&T Technology Services) ***May 2021- September 2024***

Senior Mechanical Design Engineer ***Tools- Catia V6 (3DX), Enovia, DFM***

- Worked on Body In White Structure fasteners (welds and SPRs), sealers, B-pillar and bumper beam, roof and floors using engineering best practices.
- Created CAD surfaces and solids, GD&T, and fastening strategies using Catia V6 (3DX).
- Released change actions (CA) for weld strategy changes and sealers.
- Plant support at Normal, Illinois for B-plr, weld splutter issues (affecting airbag deployment) on RPV and R1T.
- Created CONCESS tickets in Jira for ongoing issues at plant.
- Managed system, subsystem, and component information in the Enovia PLM and Catia V6 (3DX) environment.

Project Highlights

- **Bumper Beam for RPV700/ RPV500:** Designed radar bracket and attachment features on bumper beam for Radar ASSY module and wire-harness.
- **Fasteners for RPV700/500LHD/500RHD:**
  - Created and released fasteners (resistance spot welds, rivets, and flow drill screws) on BIW for RPV.
  - Created strategies for commonizing welds and SPRs for RPV and RCV and helped in cost saving initiatives.
- **Crash sensor bracket RPV700/500LHD/500RHD:** Designed crash sensor bracket for RPV 700/500 for B-plr.
- **Cargo cooling ventilation system RPV700:** Designed cargo cooling ventilation system for EDV for roof panels.
- **Skateboard Midrails for EDV700 chinook:** Designed Midrails for EDV700 chinook as a new concept transitioning from aluminum extrusions to steel tubes.

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FCA, Auburn Hills, MI, USA (TEC GROUP) ***March 2019 - May 2020***

Product engineer ***Tools- NX11/Catia V5/DVPR/DFM***

- Responsible for design and development of steering column for RAM trucks (1500, 2500 and 3500).
- Responsible for design and development of cross-car beam for JEEP Wrangler.
- Analyzing CAD and drawings received from suppliers, reviewing GD&T and releasing them in Team center.
- Creating CNs to implement changes after optimizing the designs.
- Visited supplier plants, sub integration assembly plants, vehicle assembly plants to inspect issues.
- Optimized the upper I-shaft design using DFSS (reactive green belt) to reduce the installation efforts at the plant between the dash seal and dash panel:
    - Used Kepner Tregoe method to solve warranty issue [Red X, Green Y approach].

Project Highlights

- **Designing EA brackets for JEEP Wrangler:** Designed and developed EA brackets for cross car beam considering the FD curves and worked with vehicle safety team during frontal crash test to meet FMVSS requirements.
- **Optimizing steering column upper I-shafts for RAM trucks:** Root caused the interference issues between the dash seal and dash panel on RAM-trucks using reactive green belt approach and created DVPR to test out the new design for robustness and implemented the change thereby reducing the part failure during assembly.
- **Optimized steering column lower I-shafts for RAM trucks:** Implemented changes in the lower I-shaft bearing seals on the trucks to avoid water intrusion into the bearing caps there by reducing the warranty returns on the parts.

Ford Motor Company, Dearborn, MI, USA (OPTIMAL CAE INC) ***August 2015 - March 2019***

Product Engineer ***Tools- Catia V5/Teamcenter/Vismockup***

Digital Innovation – Structures

- Evaluated 2D drawings for compliance with Ford standards for Production release.
- Designed B-pillar sheet metal brackets in CATIA V5, coordinating with Production Engineering, suppliers, and toolmakers to ensure feasible manufacturing and timely implementation of engineering feedback through prototype builds.
- Developed hardpoints for packaging the steering columns and steering gears for package feasibility study.
- Motion mapping of steering columns and gears using the KBE tools to check for the packaging issues Released components into Teamcenter for P-release of steering columns.
- Worked with CAE group to evaluate the FEA results and optimized the designs.

Project Highlights

- **Sheet Metal Brackets for Ford F150 (Electric)**: Designed OBD mounting brackets for Ford F150 (Electric).
- **Floor panel reinforcements for Ford Mondeo (EU version):** Designed CAD package for front floor reinforcements assembly for accommodating GEN-III air cooled HV batteries using CATIA V5 considering package requirements.
- **Steering Column motion mapping for Lincoln MKC:** Created hardpoints and motion mapped steering columns and gears using the KBE tools and released components into Teamcenter for P-release for Lincoln MKC (2019 MY) for checking package feasibility.

University of Michigan Dearborn – Dearborn, MI, USA ***June 2014 - June 2015***

Graduate Research Assistant ***Tools- Catia V5***

- Fatigue Analysis of spot welds of automotive BIW using Hypermesh and Abaqus under tensile stress.
- Designed a rubber shredding machine for extracting rubber from the used tires of automobiles using Catia V5.

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Hyundai Motor India Engineering (R&D Center) – India ***September 2010 - December 2013***

Research Engineer ***Tools- Catia V5***

- Designed Body-In-White Structure parts for underbody components.
- Created 3D parametric models for underbody, rear floor, dash panel, back panel using CATIA V5.
- Worked on benchmarking competitor vehicles and generated reports on recommendations.
- Participated in value engineering workshops for better quality and lower costs.
- Prepared and managed Bill of Materials (BOM) and released drawings in PLM through Design phase.
- Benchmarking and creating Quality functional deployment (QFD) of customer requirements to develop attributes required for the vehicle.

Project Highlights

- **BIW sheet metal panels and reinforcements:** Designing sheet metal panels mainly dash panel, center floor and rear floor reinforcements for Hyundai i10 and i20 projects.
- **Digital Pre-Assembly:** Performed DPA checks for BIW assemblies using TeamCenter Vismockup for visualizing the DigitalBuck.
- **Cost Reduction:** Generated cost reduction and weight reduction ideas for upcoming vehicle projects by benchmarking competitor vehicles during teardown analysis.
- Reverse engineered a Body structure using Vehicle 3D scanning, thickness mapping and generated surfaces from STL cloud data using CATIA V5.

Tools and Skills:

Automotive BIW and Interior Design CAD – CATIA V6; 3DX, Catia V5, GD&T, Teamcenter, Vismockup, ENOVIA, Project Management, PLM, Engineering Change Management, DVPR, DFMEA, reactive green belt (DFSS), Python, Hypermesh, Abaqus.

Honors and Awards:

- Ford recognition award in acknowledgment for successfully designing blow molded HV battery cooling ducts.

Academics:

- Pursuing Online **Masters in Computer Science (OMSCS)** from Georgia Tech (2024 - present).
- **Master of Science** in Automotive Systems Engineering (Graduated in December 2015)
  - University of Michigan-Dearborn, MI, USA.
- **Bachelor of Technology** in Mechanical Engineering (Gradated in May 2010)
  - Jawaharlal Nehru Technological University – India.