ARJUN YERAVDEKAR

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- **Mechanical Engineer with strong ability to help manage projects from concepts to completion ensuring on-time, on-budget and on-target results.**
- **Expert user of CAD software** and highly skilled in producing mechanical engineering documents and drawings.
- **Experienced professional with demonstrated history of working in CAE** for design validation, optimization & cost reduction.
- **Hands on experience in manufacturing activities like** injection molding, die casting, lathe machining, CNC programming, 3D printing & **problem-solving techniques** such as root cause analysis, failure analysis, sensitivity analysis, 8D, DFMEA, DMAIC.

PROFFESIONAL EXPERIENCE

CAE Intern | Electrolux major appliances, R&D | Charlotte, NC, USA (ANSYS, StarCCM, AutoForm, CATIA V5) August 2019 - Present

- Fulfilling key position for **planning and execution of critical FEA activities** within Electrolux R&D.
- Developing detailed 3D drawings for washers and dryers using CATIA V5.
- Modelling of **vibrations**, **heat transfer**, **airflow**, & other attributes that might impact system performance.
- Performing finite element simulations for **structural** and **thermal analysis** of a detailed machine assembly.
- Communicating **intricate engineering concepts** with non-technical teammates or internal stakeholders.
- Formulated the concept & spearheaded the designing, validation and testing process for the new washer and dryer door assembly.
- Achieved a **cost reduction of 11%** for the new washer door assembly by performing **sensitivity analysis** to remove redundancies.
- Reengineered the hinge to **reduce the deformation of the dryer door by 20%** thus improving the life expectancy of the hinge.
- Remodeled the motor cradle & blower housing for the new dryer to aid in manufacturability & **reduce material cost by 17%**.
- Improved structural integrity of the blower by **12%** by performing **thermal analysis**.

Research & Development Intern | RP Automations | Pune, India (AutoCAD, SOLIDWORKS, ANSYS) January 2017 – August 2017

- Automated previously manual **special purpose machines** for various manufacturers.
- **Oversaw complete life cycle** of product development from concept to prototype.
- Responsible for 2D and 3D conceptual and detailed designing of various subassemblies on AutoCAD\SOLIDWORKS.
- Merged with Electrical Engineers to **integrate electronic systems** – particularly sensors, controllers and motors.
- Performed FEA to study different characteristics of machines like top load, push down force, squeeze force, & impact analysis.
- Performed **structural linear/non-linear FEA analysis**, **static analysis**, **vibration analyses**, & **failure analyses** of machines.
- Created **BOM**, maintained **DFMEA equivalence sheet**, and performed **tolerance analysis to ensure GD&T confirm to ISO 1101**.
- Built **fully functional prototypes** in-house using various manufacturing processes: **injection molding**, **die casting**, **3D printing**.
- Investigated root cause analysis by using tools such as **8D**, **5 whys** & **FMEAs** and implemented solutions.
- Unique selling point of these automated machines is **less human intervention**, **accelerated process time** & **reduction in operational cost** when compared to conventional manual machines.

Mechanical Design Intern | PJ Valves | Pune, India (SOLIDWORKS, ANSYS) May 2015 - May 2016

- **Headed a team** to design, validate & model a **test rig** to surmount a challenge of reducing loading & testing time for ball valves.
- Developed detailed 3D designs for the test fixture using SOLIDWORKS.
- Performed **linear/nonlinear structural analysis**, **failure analysis**, and **tolerance analysis** to optimize the test rig.
- Led a multidisciplinary effort for **new float of material** and layout for the base plate.
- Developed piping & instrumentation diagrams **(P&ID)**. Created a **CAD draft**, **BOM** and **GD&T according to ASME Y14.5-2009**.
- Used DMAIC tool for problem analysis to **reduce process defects by 8%** and DFM/DFA principles to improve manufacturability.
- Achieved **reduction in testing cycle by 30%** & **direct reduction in head count**. Reduced system **operational cost by 8% per quarter**.

CORE COMPETENCIES

- Design and Analysis tools: CATIA, SOLIDWORKS, CREO, NX-CAD, AutoCAD, ANSYS, StarCCM, AutoForm, Mastercam.
- Familiar with different types of materials such as Aluminum & its alloys, polypropylene with reinforcing fillers, structural steel.
- Programming: MATLAB, Simulink, LabVIEW, Python, C, C++, Arduino, Machine Learning, Deep Learning, Microsoft Office Products.
- Relevant Courses: Strength of Materials, Design of Machine Elements, Heat Transfer, Fluid Mechanics, Manufacturing Processes.

EDUCATION

- **M.S. in Mechanical Engineering,** University of North Carolina at Charlotte, **GPA – 3.4/4.0** December 2019
- **B.E. in Mechanical Engineering,** University of Pune, India, **GPA – 4.0/4.0** June 2016

PROJECTS

Static analysis of a Spur gear pair (ANSYS) February 2018

- Performed **static structural analysis** of a spur gear pair present in an automotive powertrain to calculate the contact stress on the teeth and root fillet stress during the contact.
- Developed a thin model to make ANSYS understand that it is a 3D model with a fake 2D geometry & carried out the analysis to achieve a **classic butterfly shape** of the ideal stress distribution at the contacting faces.