VINAYAK DAS

Seattle, WA | +1 206-730-8334 | vinayakda1@gmail.com | linkedin.com/in/vinayak-das

EDUCATION

University of Washington — ***Seattle, WA***
Master of Science in Mechanical Engineering CGPA: 3.81/4.0 — *June 2025*

Birla Institute of Science and Technology Pilani — ***Pilani, India***
Bachelor of Engineering in Mechanical Engineering CGPA: 8.8/10.0 — *Jul 2020*

SKILLS

Design and Manufacturing, Solid modelling, Tool and Die Design, Prototyping, Metal Stamping, Motorcycle Chassis Design, DFM, DFA, GD&T, Kaizen, Six Sigma, Solidworks, CATIA v5 Surfacing, PLM, DraftSight, 3D Printing, AutoCad, FEA, ANSYS, Arduino

EXPERIENCE

DESIGN ENGINEER CO-OP | Genie — *Redmond, WA | Jun 2024 – Dec 2024*

- Performed detailed design and analysis of steel components using SolidWorks, enhancing manufacturability, increasing production efficiency, and driving product improvements overall.
  - ➔ Investigated design of a **sheet-metal shroud assembly** and came out with **design improvements to fix fitment, interference, assembly, and over-design issues**, significantly enhancing manufacturing efficiency. The final design had **30% less parts, 100% deletion of welded components** and is expected to reduce the **cost per unit by $100 and save $20,000 pa.**
- Led and managed multiple Global projects simultaneously through effective project management and cross-functional team coordination, ensuring timely delivery and cost reductions while maintaining design quality standards.
  - ➔ Collaborated with the NPD and the sustaining design teams, to **test and validate a new power unit** for the VAVE/quality driven project. Lead the implementation of the power unit, by **releasing the new design, addressing issues with the supplier, updating assembly structure, allocating service parts, creating an aftermarket kit** and managing all of the ECOs. This **addressed major quality concerns** and achieved a savings **of $70,000 pa.**
- Demonstrated exceptional adaptability by swiftly adjusting to diverse project requirements and mastering new tools and processes, resulting increased project efficiency. Effectively managed multiple design tasks simultaneously through strong multitasking and time management skills, ensuring timely delivery of high-quality design solutions across various projects.
  - ➔ Lead a **Global Decal creation project** that addressed a **major customer quality issue** of discharged units getting delivered to the customer. Investigated the concern, **devised numerous unique concepts, coordinated feedback from Global Shareholders, and finalized the artwork** and found a new removable decal concept in four weeks' time.

DESIGN AND DEVELOPMENT ENGINEER | Hero Moto Corp Ltd. — *Jaipur, India | Aug 2020 – Jun 2023*

- Designed, developed, and optimized precision tools and models for prototype motorcycles, ensuring GD&T compliance and manufacturability with attention to detail, **increasing first-pass yield from 80% to 90%**, and speeding up the development.
- Created and fine-tuned CNC programs for a 5-axis CO2 Laser Cutting Machine, identifying solutions to **enhance trimming efficiency and reducing material waste by 8%**.
- Led **DFM and DFA initiatives** in prototyping, estimating costs and managing time to **cut assembly time by 20%** and facilitate smooth transitions to potential production.
- Collaborated with design, fabrication, and testing teams to validate prototypes, identifying solutions to **lower failure rates by 15% and ensure product reliability and durability**.
- Solved design issues during prototype builds with attention to detail, **decreasing material usage variances by 18% and cutting project lead times by 25 hours**, accelerating the development cycle.
  - ➔ Developed a challenging **sheet metal blank** for a stamping part **through iterative design**, surpassing initial supplier estimates of 2 months and 6 press tools. The result was achieved in just **one week with only one press tool**.

RESEARCH INTERN | ISRO Inertial Systems Unit — *Trivandrum, India | May 2018 – Jul 2018*

- Analyzed and optimized the performance of a vibratory gyroscope, **reducing error to 0.07% through algorithm development**.
- Utilized ANSYS Workbench to simulate theoretical work and **validate results, ensuring increased accuracy**.

PROJECTS

Touch Sensitive Musical Gloves — *Oct 2024 - Dec 2024*

- Designed and prototyped an innovative musical glove that triggers music notes through fingertip touches.
- Implemented **capacitive touch sensors with microcontrollers,** programming musical functionalities with **Arduino**.

Simulation of Viscoelastic Model of Arterial Walls — *Jan 2019 - Apr 2019*

- **Modelled the complete human aorta** in SolidWorks, integrating reference images and precise dimensions.
- Conducted in depth **stress/strain analysis**, revealing insights into arterial wall behavior during a cardiac cycle.