Akash Tambe | Mechanical Engineer

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Mechanical Engineer with experience in automotive, aerospace, and telecommunication sectors.

- Proficient in mechanical design, prototyping, and FEA using SolidWorks, AutoCAD, and ANSYS.
- Led projects such as friction welding machines and compact antenna systems, improving efficiency and reducing costs.
- Strong expertise in GD&T, DFM, and FMEA, ensuring optimized designs and enhanced manufacturability.

Experience

Friction Welding Technologies | Mechanical Engineer   *Jan 2022 - Dec 2022*

- Led the design and development of a 60-ton friction welding machine (valued at $350,000) using SolidWorks and AutoCAD.
- Streamlined project management by transitioning 1000+ legacy CAD models to the EPDM system, enhancing workflow efficiency.
- Collaborated with teams, customers, and vendors to integrate feedback, optimizing design and client satisfaction.

JMA Wireless | Mechanical Engineer   *Jun 2020 - May 2021*

- Led the development of small-scale antennas, including ceiling and stadium types, using SolidWorks PCB and electromechanical packaging.
- Utilized 3D printing for rapid prototyping, reducing product development cycles and time-to-market by 30%.
- Conducted RF performance testing and validation using Six Sigma methodologies and Root Cause Analysis.

Education

Carnegie Mellon University   *Jan 2023 - May 2024*

- Master of Science, Mechanical Engineering
- GPA: 3.94/4.00

University at Buffalo   *Aug 2016 - May 2020*

- Bachelor of Science, Mechanical and Aerospace Engineering
- GPA: 3.77/4.00

Projects

Stair-Vacuum Robot | Carnegie Mellon University   **Jan 2024 - Apr 2024**

- Developed and designed an autonomous stair-cleaning robot in PTC Creo, focusing on robust tank-tread mobility and stability.
- Fabricated and assembled components using laser cutting, 3D printing, and machining, maintaining precision within a $900 budget.
- Conducted comprehensive testing to optimize performance and durability across varied stair configurations.

Friction Welding Machine | Friction Welding Technologies   **Jan 2022 - Sep 2022**

- Managed the entire project lifecycle of a 60-ton friction welding machine, using SolidWorks and AutoCAD for detailed design.
- Performed FEA using ANSYS and FMEA techniques to enhance structural integrity and mitigate failure modes.
- Oversaw the fabrication of CNC and sheet metal components, ensuring precision through GD&T standards.

Compact Ceiling Antenna | JMA Wireless   **Oct 2020 - Dec 2020**

- Designed a compact, 4x4-inch omnidirectional antenna using SolidWorks and AutoCAD, optimizing RF performance and manufacturability.
- Employed 3D printing for rapid prototyping of snap-fit features, ensuring secure PCB integration with injection-molded casings.
- Conducted ANSYS simulations to ensure optimal signal quality and performance.

Stadium Antenna | JMA Wireless   **Jul 2020 - Sep 2020**

- Designed and developed stadium antennas for NFL stadiums using SolidWorks and AutoCAD to enhance wireless connectivity.
- Built and tested 8 prototypes, ensuring structural integrity and optimal performance in varied conditions.
- Designed and fabricated sheet-metal mounting brackets to meet vendor-specific requirements, improving installation efficiency.

Skills

CAD/FEA: SolidWorks, ANSYS, AutoCAD, PTC Creo, Autodesk Inventor, Siemens NX, CATIA

Manufacturing: Machining, CNC, Laser Cutting, Sheet Metal, Injection Molding, 3D Printing

Programming: MATLAB, Python, LaTeX, HTML/CSS, JavaScript, Arduino, Microsoft Office

Languages: English, Hindi, Marathi