Aman Dadheech

(480) 791 5865 | dadheech.aman@gmail.com | linkedin.com/in/adadheech | github.com/adadheech/portfolio.git

Education

Arizona State University **05/2023**
Master of Science in Robotics and Autonomous Systems – GPA: 3.97/4.00 *Tempe, AZ*

Delhi Technological University **06/2021**
Bachelor of Technology in Mechanical Engineering *New Delhi, India*

Skills

Mechanical: CAD (SolidWorks, AutoCAD), Ansys, FEA, CFD, Rapid Prototyping, Design For Manufacturing & Assembly (DFMA), Geometric Dimensioning & Tolerancing (GD&T) – ANSI Y 14.5, Additive Manufacturing

Electronics & Programming: Arduino, Python, MATLAB, Sensor Interfacing, Electromechanical Actuators

Experience

Adaptive Concepts LLC **06/2023 – 08/2023**
Mechanical Engineer (Intern) *Tempe, AZ*

- Investigated and documented a proof-of-concept design of an airship, demonstrating the use of a vacuum chamber to generate net positive buoyancy
- Designed a 3D Model of a thin-walled spherical vacuum chamber rotating on a multi-axes gimbal system
- Analyzed the structural integrity of vacuum chamber rotating at 1000RPM via dynamic modeling on Ansys

Maruti Suzuki India Limited **05/2019 – 08/2019**
Mechanical Engineer (Intern) *New Delhi, India*

- Conducted comprehensive data collection of inspection and quality control requirements on the vehicle assembly floor, gathering Maruti Operating Standard of Inspection (MOSI) insights from 50+ employees
- **Improved productivity in assembly line inspection by 3%** by analyzing challenges on inspection stations and providing a consolidated document with improvement plan
- Developed and implemented MOSI recommendations to streamline quality control for 12 inspection stations across 6 vehicle models on the Maruti Suzuki Assembly Line

DTU ALTAIR **08/2017 – 06/2021**
Mechanical Engineer (Part Time) *New Delhi, India*

- Improved drone chassis structural integrity by 14% through comprehensive Finite Element Analysis (FEA) on Ansys
- Elevated the precision and agility of 4 soccer-playing robots via integration and optimization of holonomic drive systems
- Accelerated manufacturing lead time by over 50% by designing and constructing a proprietary high-capacity 3D printer; Trained 100+ students on additive manufacturing via workshops using the 3D printer
- Maintained Bill of Materials (BOM), supply chain, and supplier relations; reduced operational costs by 13%

Projects

NASA Can-Sized Satellite (CanSat)

- Led 5-person team to design a stable descent control system for a delta-wing glider using SolidWorks
- Attained a lift of 7.65N, leveraging iterative design process employing CFD simulations using SolidWorks Simulation and XFLR5
- Sustained a descent radius of 250m through design and control of elevator control surfaces using servo motors and PID control

Breathing Sensory Feedback Device for Lung Transplants

- Engineered a prototype using additive manufacturing **effectively reducing manufacturing costs by 30%**
- Documented design specifications, design strategy, and concept development using data collected from 15+ healthcare workers, patients, and prospective users
- **Fabricated a fully operational gamified digital spirometer** prototype using, incorporating DFM and GD&T (ANSI Y 14.5) principles