Satyapalsinh Gohil

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Education

M.S. in Mechatronics and Robotics *(New York University)* Sept 2022 - May 2024

B.Tech in Mechatronics *(SRMIST)* July 2016 - May 2020

Skills

Design :	SolidWorks(Simulation/FEA) | Fusion360 | Parametric modeling | GD&T | DFA & DFM
Prototyping :	Raspberry Pi | 3D Printing | CNC & Conventional machining | Welding | Power tools
Optimization	Root cause analysis | Design validation | Yield improvement | Quality assurance | 5-S, Kaizen
Documentation	Technical Reports | 2D drawing&BOM | Cost Reduction | PLM platforms | MS Office
Applied :	Electromechanical Integration | Cable Management | Systems Design | Component Sourcing

Achievements

Certified Solidworks Professional (CSWP) – Mechanical Design: ID - C-UMCB2JD3Y9. **[link]**

Provisional Patent – System for Automated Analysis and Cloud Storage of Digital Content. **[link]**

Publication – Design and Development of wireless controlled serial manipulator. **[link]**

Work Experience

LevitatePro Inc. *(Mechatronics Engineer)* **[link]** June 2024 - present

- Designed and integrated Electro-mechanical systems for an IoT-based DSLR device. Collaborated with the electrical team to optimize thermal management, ensuring reliable performance in varied conditions.
- Led rapid prototyping using SolidWorks and 3D printing, focusing on DFM principles and tolerance analysis to optimize manufacturing and cost by identifying potential production challenges in the design phase.

AI4CE Lab, NYU *(Graduate Researcher)* **[link]** April 2023 - April 2024

- Designed a multi-sensor mount system (Livox-360 LIDAR, 360° Camera, RTK GPS, BMS) for self-driving cars in SolidWorks, ensuring structural integrity and operational reliability for consistent data collection.
- Led testing and validation of prototypes and worked with the manufacturing team to select materials, optimize assembly, ensure vibration dampening, and manage cable for modular and cost-effective solutions.

Honda Research & Development *(Research Engineer)* **[link]** Sep 2020 - Aug 2022

- Designed and iterated vehicle frame and exterior body parts using CATIA V5, applying GD&T and creating detailed 2D drawings, BOMs, and collaborating with manufacturing teams to ensure quality alignment.
- Collaborated with cross-functional teams (Manufacturing, Quality Assurance, and Testing) to validate designs, ensuring components met production standards and quality targets. Utilized PLM platforms for design documentation, version control, and efficient project tracking.
- Implemented Kaizen and DMAIC principles to drive continuous improvement in design and manufacturing, leveraging root cause analysis and troubleshooting to resolve issues and enhance product quality.
- Prepared technical reports and documentation, including design specifications, testing procedures, and production quality assessments, to support project reviews and compliance with required standards.

Robocon Lab, SRMIST *(Research Student)* **[link]** Nov 2017 - April 2020

- Designed holonomic drive systems with serial manipulators using SolidWorks, creating detailed 3D assemblies and engineering drawings for rapid prototyping and field maintenance optimization.
- Led complete robot fabrication and assembly, integrating electromechanical components (cameras, ultrasonic sensors, encoders, servo/stepper/BLDC motors) with custom bracket design, cable management, and modular chassis featuring protective enclosures and quick-access panels.
- Managed component sourcing for robotics hardware and troubleshot complex robotic systems, utilizing 3D printing, laser cutting, and CNC machining for cost-effective in-house manufacturing and rapid prototyping.

Projects

World Robot Olympiad – India(3rd Position) **[link]**

- Designed and fabricated a Holonomic drive with a manipulator using SolidWorks and MATLAB simulations.

Wireless Controlled Serial Manipulator **[link]**

- Developed a wireless-controlled 3-DOF human assistive manipulator and modeled its dexterous workspace.

DEMETER (Hydroponic System) - [Tekmux 3.0, 2019 – Winner] **[link]**

- Developed a Hydroponic System Incubator reducing water consumption by 80% with 2X Plant growth.