

MALAY PATEL

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EDUCATION

University of Washington, Seattle

Master of Science (MS) in Mechanical Engineering, GPA- 3.64/4.00

Jun 2020

Savitribai Phule Pune University, Pune

Bachelor of Engineering (BE) in Mechanical Engineering, Grade- 75.33/100 (First class with distinction) Jul 2018

SKILLS & AWARDS

CAD/ Analysis Skills: Solidworks (Fluent), CATIA-V5 /V6 (Fluent), AutoCAD (Intermediate), ANSYS Mechanical (Fluent), Creo (Intermediate), MATLAB (Intermediate), Python (Intermediate), ABAQUS (Fluent), Minitab (Intermediate), Microsoft Office Suite (Word, Excel, PowerPoint)

Technical Skills: 3D CAD Modeling, Finite Element Analysis (FEA), Design of Experiments (DOE), GR&R, Lean Manufacturing, Six Sigma, Root Cause Analysis, manufacturing Processes, DFMEA

Certifications & Training: 1. Certified Solidworks Professional, Mech Design (CSWP) by Dassault Systemes
2. 'Geometric Dimensioning & Tolerancing (GD&T) ASME Y14.5' by TATA Technologies

Awards: 1. 'Graduating student scholarship' by UW Mechanical Engineering Department

RELEVANT EXPERIENCE

UNIVERSITY OF WASHINGTON, HUMAN PHOTONICS LABORATORY (HPL)

Seattle, WA

Research Engineer

Dec 2018 – Present

- Working on developing biopsy medical devices (opto-electro-mechanical) to be used for cancer detection through mechanical design from concept to final stage using CAD, Design for Manufacturing (DFM) according to FDA Regulations for class II devices.
- Performed prototype development using 3D Printing, laser cutting, plastic Injection Molding and CNC milling.
- Implemented in-depth structural analysis for stress, deflection and thermal analysis using nonlinear Finite Element Analysis (FEA) in ABAQUS by a parametric sweep on different device configurations.
- Achieved an error of below 10% between validation of numerical and experimental results.

DIMI WORKS

Mohali, India

Packaging Engineering Intern

Jun 2016 – May 2017

- Constructed detailed 3D CAD models based on conceptual design of customer proposals for medical device components for high volume manufacturing using Solidworks.
- Converted 3D CAD models to engineering drawings with GD&T symbols with tolerance stack up and forwarded to the manufacturing team.
- Teamed up with cross functional teams in developing Bill of materials (BOM) of the designed parts and setting up a PDM vault to store all data related to the project.
- Performed root cause analysis and DFMEA of issues detected in development of existing components.

ADDITIONAL EXPERIENCE

UW AERONAUTICS & ASTRONAUTICS CUBESAT TEAM

Seattle, WA

Structures, Thermal and Configuration (STC) Team Member

Jan 2020 – Mar 2020

- Collaborated with the STC team of 8-10 members in performing thermal, fatigue and vibration analysis on the CubeSat (microsatellite) assembly using ANSYS thermal and CFD in different configurations.
- Facilitated with team members in conducting a Size Weight and Power (SWaP) analysis on the assembly.

UW ENGINEERING INNOVATION IN HEALTH (UW- EIH)

Seattle, WA

Project Team Member

Sep 2018 – Dec 2018

- Analysed a clinical need associated with evaluating the heart condition of patients admitted in ICUs.
- Prepared a conceptual and detailed design for a pressure monitoring levelling device capable of operating automatically.
- Presented the conceptual design as a team at the UW-EIH symposium having a total audience of 100-150.

PUBLICATIONS & PATENTS

- Patel Malay S, Carson Matthew D., Seibel Eric J., Meza Lucas R., 'Intraductal Tissue Sampling Device designed for the biliary tract', accepted in IEEE- JTEHM, Jan 2021
- Lucas Meza, Eric Seibel, Malay Patel, 'Deployable Tubular Biopsy Device', US Provisional Patent Ser. No 49005.01US1