Maharshi Patel

BASc. Honours Mechatronics Engineering (2019) | University of Waterloo
+1 989.501.4467 | m237pate@edu.uwaterloo.ca | maharshipatel.me

SKILLS

Design: ANSYS, Abaqus, MATLAB, NX, SolidWorks, Inventor, Fusion360, Mastercam, Rhino, Creo, Python & GD&T
Manufacturing: CNC Mill/Lathe/Router, additive manufacturing, power tools, rapid prototype & fastening technique
Hardware: SIMULINK, C/C++, LabView, FPGA, PLC, Hardware Design, Sensors

- Over **4** years of experience in design for manufacturing (**DFM**), assembly (**DFA**) and **lean manufacturing**
- Successfully co-Led **concept-to-launch** project for a state of the are electric surfboard (Jetfoiler)
- Excellent product management skills acquired from leading production projects at both startups and fortune 500 companies

EXPERIENCE

Kai Concepts | Oakland, USA — 2019 - 2020
Mechanical Design Engineer

- Designed production parts for the surfboard in **SolidWorks & Fusion360**; successfully implemented in **45%** of current boards
- Reduced the board price by **$1.55** by replacing 3 screws in the power plug with a patent pending fastening mechanism
- Using **topological-optimization** to design a new strut for the surfboard to save **~250g** in weight and **$3.67** in value
- Led a project to streamline the CAD library to better design workflow; subjected to **40%** faster design iteration
- Sourced and maintained relationship with **vendors** and **global manufacturing partners** to support full production run

Apple Inc. | Cupertino, USA — 2018
Mechanical Engineering Intern (iPhone)

- Reduced **90%** manual time and saved **$200K** in value by designing an algorithm that maps device test data to root-cause symptoms using **Python, MATLAB & JMP**; the algorithm gave accurate results of up-to **96%**
- Presented the algorithm to over **15** Internal teams to push for adoption; gained several users to use the algorithm

Technical University of Hamburg (TUHH) and Airbus | Germany — 2017
Mechanical Engineering Research Intern

- Developed an algorithm to map a bionic shape to a geometric structure in **MATLAB**; reduced **90%** of simulation time
- Created **SolidWorks & Creo** model from the algorithm result and simulated the structure to visualize load paths using **Abaqus**
- Conducted **DOE** for testing and validating simulation results using **additive manufacturing technologies**

General Motors | Canada — 2016
Mechanical/Manufacturing Engineering Intern

- Led 8-men team to reduce scrap engine blocks; resulting in a **35%** decrease of scrap block and **$250K** in savings per year
- Implemented new design solutions for assembly line to increase production throughput by **10%**
- Analyzed **cold test** results on GEN V engines by studying approximately **200** parameters to improve engine dynamics

Linamar Corporation (Camtac Manufacturing) | Canada — 2016
Jr. Project Engineer Intern (Mechanical/Machining)

- Co-Led on a **rapid prototype** project for Ford's 10-Speed Transmission (10R60) **&** GM 9-Speed Transmission (9F)
  - Created and maintained **PFMEA, process specification & control plan**
  - Used **DFM** and **DFA** principles to design various fixtures, tooling and gauges in **SolidWorks & Creo**

University of Waterloo | Canada — 2015
Mechanical Engineer/Research Intern - WatCAR

- Developed a wind energy harvesting concept for plug-in hybrid and electric vehicles; achieved an efficiency of **3%**

PROJECTS

University of Waterloo Alternative Fuels Team (UWAFT) | Canada — 2018 - 2019
Project Lead (Vehicle Design) - Mechanical/Controls Team

- Modeled Exhaust system for EcoCAR 4 (Chevrolet Blazer) in **NX** and simulated frequency response for the sub-components
- Successfully integrated clutch designed in **NX** for the EcoCAR 4 and validated powertrain dynamics using **MATLAB**

Formula Electric | Canada — 2015 - 2017
Project Lead (Aerodynamics) - Mechanical Team

- Designed and validated a **2D CFD** multi-element airfoil model in **ANSYS** to test ground effect, resulted in **3%** better efficiency