

Maharshi Patel

BASc. Honours Mechatronics Engineering (2019) | University of Waterloo

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SKILLS

Design: ANSYS, Abaqus, MATLAB, NX, SolidWorks, Inventor, Fusion360, Mastercam, Rhino, Maple, Python & GD&T

Manufacturing: CNC Mill/Lathe/Router, additive manufacturing, power tools, 3D Printing. & 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 art electric surfboard (Jetfoilr)
- 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**, designed a new strut for the board 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** 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

- 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
- Led 8-men team to reduce scrap engine blocks; resulting in a **35%** decrease of scrap block and **\$250K** in savings per year

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**

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
- **3D-Printed** scaled model of wing design assembly to validate ground effect simulation results in a wind tunnel