Maharshi Patel

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

Proficient: ANSYS, Abaqus, MATLAB, NX, SolidWorks, Inventor, Fusion360, Maple, JMP, Python & GD&T
Exposure: RHINO, SIMULINK, C/C++, LabView, FPGA, PLC, Hardware Design, Sensors & Fastening Technique
- Over **4** years of experience in design for manufacturing (**DFM**), assembly (**DFA**) and **lean manufacturing**
- Co-Led **concept-to-launch** of an electric surfboard (JetFoiler/E-foil), that is disrupting the personal watercraft segment
- Excellent project/product management and analytical skills acquired from leading projects for Apple, Airbus, Ford & GM
- Conducted independent research on a fully functional energy harvesting system for applications in automotive industry

EXPERIENCE

Kai Concepts | Oakland, USA   September 2019 - January 2020
Mechanical Design Engineer
- Designed components and tooling for the Jetfoiler/E-foil using **DFM** and **DFA** principles in **SolidWorks, Fusion360** and **RHINO**
- Validated the components and tooling using **RHINO, ANSYS** and **SolidWorks**, as well as conducting design of experiments
- Sourced **vendors** and **manufacturing partners** globally that can support and maintain full production run
- Established **DFMEA**, standard operating procedures, assembly instructions and drafting standards to ISO standards

Apple Inc. | USA   January - April 2018
Mechanical Engineering Intern (iPhone)
- Reduced **90%** manual time and saved **$200K** by designing an algorithm using statistical approach in **Python, MATLAB & JMP**
- Presented algorithm to **100+** people and got several teams to adopt the tool
- Analyzed the quality impact of new system and modular changes for future iPhone models

Technical University of Hamburg (TUHH) and Airbus | Germany   May - August 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 design of experiments for testing and validating simulation results using **additive manufacturing technologies**

General Motors | Canada   August - December 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 blocks; resulted in a **35%** decrease of scrap block and **$250K** in savings per year

Linamar Corporation (Camtac Manufacturing) | Canada   January - April 2016
Jr. Project Engineer (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   April - August 2015
Mechanical Engineer/Research Intern - WatCAR
- Developed and evaluated a wind energy harvesting concept for plug-in hybrid and electric vehicles:
  - Created a **3D SolidWorks & ANSYS CFD** model to simulate and calibrate/validate turbine power output

PROJECTS

University of Waterloo Alternative Fuels Team (UWAFT) | Canada   September 2018 - April 2019
Project Lead (Vehicle Design) - Mechanical/Controls Team
- Modeling Exhaust system for EcoCAR 4 (Chevrolet Blazer) in **NX** and simulating frequency response for the sub-components
- Designed and implemented clutch design in **NX** and simulated powertrain dynamics using **MATLAB & SIMULINK**

Formula Electric | Canada   April 2015 - September 2017
Project Lead (Aerodynamics) - Mechanical Team
- Designed and validated a **2D CFD** multi-element airfoil model in **ANSYS** to test ground effect on the front wing assembly
- **3D-Printed** scaled model of wing design assembly to validate ground effect simulation results in a wind tunnel