Maharshi Patel

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

Proficient: ANSYS, Abaqus, MATLAB, NX 10, SolidWorks, Inventor, Maple, JMP, Python & GD&T
Exposure: 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
- 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 | Alameda, USA — September 2019 - Current
Mechanical Design Engineer

- Co-leading a **product launch** of a Jetfoiler (e-foil)
  - Desiging and validating components and tooling for the e-foil using **DFM** and **DFA** principles in **Fusion360** and **SolidWorks**
  - Sourcing **vendors** and **manufacturing partners** globally that can support and maintain full production run

Apple Inc. | USA — January - April 2018
Mechanical Engineering Intern (iPhone)

- Designed an algorithm using statistical approach that maps device test data to root-cause symptoms using **Python, MATLAB & JMP**; reduced **90%** of manual time and saved **$200K** in value
- 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 constrained structure from a density field in **MATLAB** to reduce computation time to simulate for a fail safe design; resulted in a **90%** more efficient 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 20 parameters to improve engine dynamics
- Led GM OPEX project for reducing 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