

NIKHIL KESWANI

Mechanical Engineer, University of Waterloo

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SKILLS

- Proficient in **SolidWorks, Inventor, Fusion 360, & AutoCAD**; experienced with **HSMWorks CAM**
- Experienced in **design, fabrication, & analysis** of mechanical systems through industry experience & design teams including **Formula SAE & the SpaceX Hyperloop Competition**
- Knowledgeable in manufacturing: **DFM/DFA, CNC milling, forming, casting, injection molding**
- Experienced in **FEA: structural, thermal & vibrational analysis** using **ANSYS & SW Simulation**
- Skilled with machining & prototyping: **milling, turning, cutting, 3D printing, laser cutting etc.**
- Experienced with **SolidWorks PDM, Teamcenter PLM, and GrabCAD**

EXPERIENCE

Kiyo Robotics – Co-founder, Mechanical Engineer – YC S'20 *Waterloo, ON* Sep. 2019 – May 2020

- Independently designed, manufactured, and tested end-of-arm-tooling, including pneumatics capable of manipulating multiple objects at once, reducing takt time by 2x
- Designed and built robotic arm pick station, housing infrastructure for sensors, cameras, etc.

Kitty Hawk – Mechanical R&D Intern *Mountain View, CA*

May 2019 – Aug. 2019

- Designed, manufactured, & tested dual-stage drivetrain for novel electric aircraft, resulting in an up to 3x increase in delivered torque and 60% decrease in peak motor temp.
- Led investigation into various transmission types, designed/tested all transmission variations, conducted noise & efficiency analysis using MATLAB

Wisk, Ex- Kitty Hawk division – Aircraft Systems Intern *Mountain View, CA*

Jan. 2019 – Apr. 2019

- Designed injection molded contactor housing & lid in SolidWorks, conducted material selection, corresponded with vendors in China to manufacture initial prototypes
- Optimized weld joints through the analysis of ultrasonic weld horns
- Developed waterproof battery sub-module seal to conform to DO-160G standards

Uber ATG – Mechanical Engineering Intern *Pittsburgh, PA*

May 2018 – Aug. 2018

- Lead design of features and processes aimed to mitigate migration of thermal interface material (TIM), eliminating 100% of ingress & reducing wasted TIM by 30%
- Conducted thermal analysis of thermal interfaces using ANSYS, validated simulations with a custom designed thermal testing assembly, conforming to ASTM E1225-13 test standards
- Simplified design of tablet enclosure while maintaining thermal performance based on in-depth thermal analysis and empirical data using ANSYS & thermal camera

Mine Kafon Lab – Mechanical Engineering Intern *Maastricht, Netherlands*

Sep. 2017 – Dec. 2017

- Designed detachable co-axial rotor boom assembly to decrease packaged volume by 60%
- Conducted structural FEA & modal frequency analysis on boom assemblies after conducting material selection, verifying structural integrity & stiffness of assemblies

Boosted Inc. – Mechanical Engineering Intern *Mountain View, CA*

Jan. 2017 – Apr. 2017

- Led the redesign of injection molded, load-bearing risers for the extended range battery pack longboard, validated design through SolidWorks Simulation & thorough user testing
- Performed root cause analysis of electrical connector failures & optimized the solution iteration process, cutting down testing time by 8x
- Designed & manufactured modular, adjustable, cyclic deck loading rig used to fatigue test longboard decks & analyse battery-ground clearance

SpaceX Hyperloop Competition – Friction Braking Lead *Waterloo, ON*

Sep. 2016 – Feb. 2017

- Designed, analysed, & fabricated modular, fail-safe, & pneumatically actuated brakes

SAE Formula Electric – Powertrain Group *Waterloo, ON*

Sep. 2015 – Aug. 2016

- Developed parts for dyno testing of motors, machined various parts for the final vehicle

EDUCATION

B.A.Sc., Honours Mechatronics Engineering - University of Waterloo

2020