**Tahina Felisca**

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**Education**

**Massachusetts Institute of Technology (MIT)** Cambridge, MA

Bachelor of Science in Mechanical Engineering; GPA 4.0/5.0 June 2019

**Skills**

CAD, SolidWorks, Creo, MATLAB, Arduino, Python, 3D printing, mechatronics, mechanical design, injection molding, electronics packaging, hardware integration CNC Machining, Design and Manufacturing, Prototyping, & Precision Design

**Experience**

**Dash Systems**  Los Angeles, CA

*Associate Manufacturing Engineer* August 2020 – December 2020

* Designed electronics enclosuresto minimize footprint by 10% and secure in-flight sensor package
* Performed destructive and nondestructive systems tests and tolerance analysis to identify and fix assembly issues
* Created process plans, fixtures, and BOM’s to support new products and equipment and analyze assembly times
* Organized the manufacturing and assembly of parts needed to support up to 10 test units in a week by generating CAM programs, managing inventory, and establishing schedules for manufacturing and assembly
* Selected contract manufacturers to support prototype development by researching costs and lead times from local fabrication shops and coordinating with designers to assess tolerances requirements for custom components

**Novo Nordisk** Kalundborg, Denmark

*Mechanical Engineering Innovation Intern* September 2019 - March 2020

* Designed an Arduino controlled pneumatic actuated petri dish dispensing system to decrease setup time by 60% and mitigate contamination risks on the insulin packaging line
* Generated strategies, concepts, and 3D printed prototypes to automate production line tasks and developing process plans to test prototypes on existing production lines with the KUKA robotics system
* Consulted with mechanical engineers, technicians, and aseptic production experts to set requirements and designed mechanical systems for the manufacturing and packaging of insulin
* Collaborated with quality assurance engineers and technicians to write documentation that meets Quality System requirements

**MIT Lincoln Labs**  Cambridge, MA *Researcher* February 2019 - May 2019

* Manufactured, assembled, and tested an autonomous ocean vessel in a team of 10 to track ionospheric distortion of GPS signals over the ocean and correct signals to mitigate lags in location outputs
* Created simulations in Fusion 360 to study the static stability of the boat hull
* Optimized process plan to decrease assembly time from four to two hours
* Drafted layout plan integrating fixtures for electronics and equipment into the interior

**Stratasys** Cambridge, MA

*Additive Manufacturing Intern* January 2019 - February 2019

* Compiled a case study comparing 3D printed jigs and fixtures to conventional methods of fabrication; identified cases in which 3D printed fixtures reduce material and labor costs or can provide ergonomic support
* Identified common questions customers experience preparing and printing in industrial settings and created 5 tutorials to address the problems; tutorials have over 800 views on GrabCAD, Stratasys’ file-sharing site

**Design Projects**

**Talon – A Self Retracting Utility Knife** Cambridge, MA

*Packaging Lead* September 2018 - December 2018

* Developed the user interface for a utility knife with a blade that retracts within 24 milliseconds in range of skin
* Modeled and 3D printed enclosure for electronics and collaborated with electrical and mechanical leads to configure the enclosure layout and internal locating features to house the mechanical assembly with SolidWorks
* Collected user input from construction workers to assess safety and accessibility concerns

**A Planetary Gear Yoyo** Cambridge, MA

*Concept Creator, Yoyo Body*  September 2018 - December 2018

* Resolved quality issues by modifying the geometry of planetary gear assembly to reduce injection mold defects and adjusted molding parameters to decrease the shrinkage of parts and correct a snap-fit
* Managed the product development of yoyos from concept to production to manufacture 55 yoyos
* Designed body mold and arranged the CNC toolpath in Fusion360 CAM, ran Moldflow simulations, and machined two iterations of mold

**Leadership Experience**

**MIT Photovoltaics Lab** – Managed experiments studying the cause of silicon cell degradation, results published in [journal](https://ieeexplore.ieee.org/document/8279422)

**MakerWorks Machine Shop****Mentor** – Advised students fabricating projects, troubleshot equipment to debug issues