

# JUSTIN FIASCHETTI

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## ACADEMIC

**Boston University, College of Engineering** - 3.3 / 4.0

Mechanical Engineering with Aerospace Concentration - Class of 2021

## EMPLOYMENT

**GE Aviation, Engineering Intern**, Cincinnati, 5/18-8/18

- *Composite Manufacturing*: Designed high-pressure, high-temperature fluid systems for composite molding and curing. 400% reduction of pressure losses.
- *Advanced Manufacturing*: Designed protective casing for laser welder.
- *Environmental Health & Safety*: Designed waste storage/collection, electrical safety equipment inspection processes.

**Boston University Engineering Product Innovation Center (EPIC), Carpentry Shop**, 1/18-5/18

- Recruited to redesign shop layout and outfit with new tools to increase productivity, usability, and safety of facility.

**Founder, Fiaschetti Woodworking**, 2014-Present

- Subject of 2018 [BU Today film](#) documenting the design and fabrication of one-of-a-kind desk.
- Design with SolidWorks; unique bowls, vases, tables, cabinets, art; 10% profits to Amazon Conservation Association.

## PROJECTS AND INVOLVEMENT

**Boston University Rocket Propulsion Group**, 9/17-Present (see [portfolio](#))

- *Project Lead/Lead Designer*: Lead design, machining and testing of 450-lbf methane oxygen gas-gas heatsink rocket engine named Mortise.
  - Responsible for designing nozzle, chamber, and injector, as well as thermal analysis and broad architecture of the engine. I am currently machining the 3 piece injector as of April 14, 2019.
    - Testing thermal model and engine geometry to optimize for future 3d printed engine.
    - Leading test campaign and post-test data analysis.
- *Project Lead/Lead Fluids Designer*: Leading 10-member team in design, build, and testing of a test stand for up to 1500 lbf rocket engines.
  - Designing fluid system including propellant feed system using Methane, GOx. Constraints driven by aforementioned engine. Feed system capable of running main engine and igniter simultaneously.
    - Tank pressure decay characterized in MATLAB script
    - Easily adjustable  $\dot{m}$  and supply pressure to allow for rapid reconfiguration to support Mortise.
    - Material compatibility and system functionality reviewed by industry contacts
    - Designed auto sequences and operations for testing
  - Writing ConOps and auto sequences for testing. Writing cleaning and safety protocols for GOx system.
- Designed and manufactured DMLS 3D printed Methane Oxygen Igniter for rocket engines.
- *Vice Director*: 2019-2020 academic year.
- *Designer*: Primary and thrust structures, fin can, and motor retaining ring on 12" OD, 16' rocket, going to 25,000'.
- *Lead Designer*: CO<sub>2</sub>-driven stage separation system for 12" OD rocket capable of separating with 200 lbf axial force.
- *Lead Designer/Manufacturer*: Fire suppression system for liquid rocket engine test stand. Fluid flow analysis for maximum flow rate and optimal coverage.

**Boston University Racing Team - Formula SAE**, 9/17-9/18

- *Bodywork Team*: Designed/built fiberglass nose cone to reduce drag, create downforce, and protect the driver.

## AWARDS

**Boston University 2018 Imagineering Competition, Best-in-Class (Freshman)**

- Designed first-of-its-kind adjustable length skateboard for annual product design and entrepreneur contest.

**AWFS 2017 Turning to the Future**

- Best-in-Show, 1st & 2nd Place; 7 additional national/local woodworking awards.

## SKILLS

- SolidWorks, Creo, ANSYS, Machining, CNC, MATLAB, Additive Manufacturing, Composite Manufacturing, GD&T, GibbsCam, Public Speaking, Soldering, Video Editing/Producing, Netfabb, Woodworking

*References Available Upon Request*