

# Shaniel Katariwala

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- EDUCATION** *Illinois Institute of Technology, Chicago, IL* **May 2018**  
*Master of Engineering in Aerospace and Mechanical Engineering with emphasis on Design*  
**GPA: 3.27**
- Miami University, Oxford, OH* **December 2015**  
*Bachelor of Science in Mechanical Engineering, Minor in Entrepreneurship*
- EXPERIENCE** **The Adler Planetarium, Chicago, IL** **January 2018 – May 2018**  
*Researcher*
- Designed, fabricated, and analyzed a prototype high-altitude balloon payload for guided descent.
  - Optimized vehicle assembly design by 58% while achieving a 28% weight reduction.
  - Developed a mathematical model for the vehicles flight path upon release from the balloon.
  - Utilized drop testing to determine the vehicle structural integrity and flight dynamics.
- Spacecraft Design Project, Chicago, IL** **January 2018 – May 2018**  
*Aerospace Engineer*
- Developed an inexpensive lightweight experimental platform satellite to allow for testing of exposure of aerospace materials and systems to the LEO space environment and longer periods of direct sun exposure while passively imaging Earth for data on climate patterns, etc.
  - Modified design to incorporate 4 payloads while complying with up to 10 external constraints.
  - Formulated cohesive data downlink for economics and ease of access of data for researchers.
  - Devised: operational requirements, orbital parameters, launch vehicle, payloads, satellite structure, power budget, solar panels, battery sizing, sensors, communications & cost analysis.
- LightSpeed Innovations, Los Angeles, CA – an aerospace startup factory** **November 2017 – February 2018**  
*Startup Advisor/Mentor*
- Mentored 4 aerospace startups seeking pre-seed funding by accelerating business formulation.
  - Critiqued business model and value proposition creation to deliver value to the businesses.
  - Generated ideas using market trends of a \$2.7T industry for market entry and product strategy.
  - Coached 6 companies on crafting the right pitch to investors/established aerospace companies.
- SpaceX Hyperloop Pod Competition, Chicago, IL** **October 2016 – February 2017**  
*Project Manager for Structures Team*
- Designed a viable hyperloop pod shell and inner frame for the SpaceX Hyperloop competition.
  - Created and organized deliverables amongst a 12-member cross-functional team, ranging from first year to masters students, based on strengths and proficiencies for proper time allocation.
  - Achieved a pod drag ratio of .18, according to ANSYS simulations.
- High Powered Rocket Design Project, Oxford, OH** **August 2014 – December 2015**  
*Project Manager*
- Created a Level II rocket to have interchangeable interior components and solid booster motor.
  - Formulated two hybrid combustion motors that incorporated nitrous oxide.
  - Corrected design flaws with the help of computer models on OpenRocket.
  - Implemented engineering analysis such as heat transfer, stress and flow analysis where need be.
- ACTIVITIES** 2020 Summer Olympics – 100m  
Miami University Varsity Football Walk-On  
Study Abroad in Jamaica & San Francisco  
Volunteer Assistant Coach - Wheaton North High School Varsity Football
- TECHNICAL** Abaqus FEA, Autodesk Inventor/Fusion 360, Solidworks, MATLAB, AutoCAD, Hypermesh, SimScale, Systems Tool Kit (STK), Microsoft Office
- CORE SKILLS** Design Thinking, Creative Problem Solving, Analytical/Critical Thinking, Product Development & Innovation, Process Improvement, DFM, Quality Control, Management & Leadership, Sales