

Jonathan James

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Experience

PRODUCT DEVELOPMENT ENGINEERING INTERN | XENITH | MAY 2022 – AUG 2022 | DETROIT, MI

- Assisted with testing of prototypes for NFL Helmet Challenge using NFL Servo-Controlled Belt Driven Impact Sled.
- Assisted with testing of competitor helmets using Cadex Pneumatic RAM and Cadex Drop Tower.
- Sourced, organized, and compiled spreadsheets of direct and indirect competitors' imports.
- Disassembled, re-assembled, and documented observations from VICIS, Schutt, and Riddell helmets.

INSTRUCTIONAL FABRICATION LAB TECHNICIAN | TERRAPINWORKS | SEP 2022 – MAY 2023 | COLLEGE PARK, MD

- Trained/assisted students with the use of subtractive manufacturing equipment.
- Fabricated customer orders to meet specified tolerances.
- Performed necessary maintenance on the machinery.
- Gave safety training presentations to new students in the lab space.

COMPLIANCE TEST ENGINEER | CSQRD VENTURES/MAJOR LEAGUE PICKLEBALL | MARCH 2023 | DAYTONA BEACH, FL

- Collected, compiled, and analyzed data on each pickleball paddle at Major League Pickleball's Daytona Tournament.
- Used Automated Design Company's Compression Testing System to measure load deflection in pickleball paddles.
- Used a Starrett SR160 to measure the surface roughness of each paddle used in the tournament.
- Conducted tests to create a detailed understanding of how to artificially enhance a paddle's flexibility.

HVAC ENGINEERING INTERN | NV5 | JUN 2021 – AUG 2021 | BOSTON, MA

- Calculated thermal loads, selected HVAC equipment, and designed ductwork for projects nationwide.

Education

UNIVERSITY OF MARYLAND | ENROLLED FALL 2019 – GRADUATED SPRING 2023

- Bachelor of Science in Mechanical Engineering
- GPA: 3.3
- Member of Society of Automotive Engineers Baja Team
- Dean's List | Spring 2020, Spring 2021, Spring 2022

Technical Skills

CAD AND CAM SOFTWARE/PROGRAMMING

- SolidWorks, SolidWorks FEA, Autodesk Inventor, Revit, AutoCAD, Fusion 360 CAM, MATLAB, C++, Arduino, EES

TESTING EQUIPMENT

- Cadex Pneumatic RAM, Cadex Drop Tower, NFL Impact Sled, ADC Compression Testing System

MANUFACTURING

- ProtoTRAK CNC, JET Lathe, DATRON neo, ProtoMAX Waterjet, Shielded Metal Arc Welding

ORGANIZATION SOFTWARE

- Microsoft Office, Adobe, Bluebeam Revu, Import Genius, Panjiva, Google Drive

Projects

SOLAR PANEL CLEANING DEVICE (GROUP) | SPRING 2023

- Designing and manufacturing a device capable of removing dirt and debris from the surface of solar panel arrays to increase solar panel efficiency.
- Building and programming a gantry system driven by stepper motors along 80-20 extruded aluminum rails.
- Using a brush and squeegee cleaning system to remove debris.
- Manufacturing and testing the product with a maximum budget of \$250.

YOUTH HELMET BENCHMARKING PROJECT (INDIVIDUAL) | SUMMER 2022

- Tested all impact locations of Riddell Victor, Riddell Speedflex, and Xenith Shadow XR using NOCSAE Drop Tower and Cadex Pneumatic RAM.
- Processed and analyzed linear acceleration and severity index using Microsoft Excel.
- Identified existing patents on competitor youth helmets.

REAR SWAY BAR (INDIVIDUAL) | FALL 2021 – SPRING 2022

- Designed, analyzed, and manufactured the first rear sway bar for Maryland's SAE off-road racecar.

DEWALT DCD701 RE-DESIGN (GROUP) | SPRING 2022

- Designed a heat sink attachment to improve thermal loads on a DEWALT power drill's battery housing.