Ryan James Howard

ryan.howard999@gmail.com
765-237-2169
https://ryanjhoward.github.io/
1804 Canyon Creek Dr, Lafayette IN 47909

OBJECTIVE

I am a passionate engineer striving to solve challenging aerospace problems. Through my balance of academic, professional, and extracurricular experiences, I have demonstrated that I am an effective communicator, dedicated team-member, and will be an asset to your team.

EDUCATION

Purdue University, *West Lafayette, IN* Aug 2016 – May 2021
BS in Aeronautical and Astronautical Engineering, Co-Op Certificate

WORK EXPERIENCE

Aerospace System-of-Systems Lab, *Research Assistant* May 2020 - Present

- Primary Author for "*Assessing the Suitability of Urban Air Mobility Vehicles for a Specific Aerodrome Network*" - accepted to AIAA Aviation 2021 Conference
- Compared UAM vehicles using economic metrics and modeling UAM trips

ATA Engineering, *Engineering Assistant, 5 Co-Op sessions* May 2017 - May 2020

1st Session	Analyzed fracture and fatigue for launch vehicle components via MATLAB.
2nd Session	Modal testing Stratolauncher, flutter testing, and calibrating sensors.
3rd Session	Stress analysis for aircraft components and fatigue analysis of critical parts.
4th Session	Design and Analysis (stress, frequency, bolted joint) for wide range of aerospace applications. Research and writing proposals for Business Development team.
5th Session	Processed wind tunnel data using custom MATLAB script. Ran simulations and debugged coupled solvers code for VTOL stability using C and VI.

PROFESSIONAL ORGANIZATIONS AND CLUBS

Vertical Flight Systems, *President and Structures Lead* Jan 2019 – May 2021

Objective	Design, Build, Test, and Fly eVTOL vehicle w/ 100-pound payload
Member	Redesigned rotor arms. Created Bill of Materials. Tracked vehicle mass.
Structures Lead	Led 5-member team and worked with leadership. Material transition from Aluminum to Steel for manufacturing. Eliminated 10% of structural mass.
President	Led 25-member team and cleared obstacles to enable team's success. Fundraised $15k+, led design reviews, coordinated logistics, and researched certification.

ENGINEERING PROJECTS (SEE MORE ON MY WEBSITE)

Aircraft Design	CAD and FEA for VTOL Business Jet. Designed primary and secondary structures. Aerodynamic analysis.	Jan – May 2021
Lunar Drill	Designed, prototyped, manufactured, and tested lunar coring drill for NASA Micro-g NExT competition.	Jan – May 2021

TECHNICAL SKILLS (HOURS OF EXPERIENCE IN PARENTHESES)

CAD/FEA (1800)	Siemens NX (800), SolidWorks (400), FEMAP (200), CATIA (150)
Programming (1250)	MATLAB (800), Python (300), C (150)
Certifications	Drone Pilot (Part 107), MIG Welding, CNC Machining, 3D printing, Model-Based Systems Engineering
Interests	Advanced Air Mobility, electric aviation, transportation, chess