# Ryan James Howard

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## OBJECTIVE

I am excited and fascinated by Urban Air Mobility (UAM) and electric Vertical Takeoff and Landing (eVTOL) vehicles. I am seeking an entry-level engineering position where I can help usher in a new era of mobility.

## EDUCATION

**Purdue University**, West Lafayette, IN — Aug 2016 – May 2021
Pursuing BS in Aeronautical and Astronautical Engineering (Senior) — GPA: 2.89/4.0

## WORK EXPERIENCE

**Research Assistant**, Systems-of-Systems Lab — May 2020 - Present

- Primary Author for "Assessing the Suitability of Urban Air Mobility Vehicles for a Specific UAM-Aerodrome Network"
- Researched and documented emerging UAM vehicles
- Developed Direct Operating Cost Model to compare vehicles following literature review of eVTOL operating cost
- Performed simulations to identify number of UAM-preferred trips for a specific Aerodrome network with cost model input
- Documented results and submitted paper to AIAA Aviation

**ATA Engineering,** Engineering Assistant Co-Op — May 2017 - May 2020

5 Co-Op Sessions
1.5+ years of experience

- Proficient with many analyses – structural, frequency, shock, thermal, fatigue, and bolted joint – for range of applications
- Documented results of analyses and presented to customers
- Developed Programming Tools ahead of schedule for VTOL controls, internal server management, and signal analysis
- Hands-on experience modal testing eVTOL vehicle
- Business Development experience including market research

## PROFESSIONAL ORGANIZATIONS AND CLUBS

**Vertical Flight Systems – President** — Jan 2019 - Present

- Design, Build, and Fly eVTOL vehicle (~300 pounds)
- Fundraised $10,000+ in 1 semester to manufacture vehicle
- Coordinated with members, industry, and professors on purchase orders, design reviews, FAA certification
- Redesigned structural assembly, trimming 10% mass

## ENGINEERING PROJECTS

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|---|---|---|
| Research Lab | Sized an autonomous, four passenger eVTOL vehicle using MATLAB Object-Oriented Programming | Aug – Dec 2020 |
| AAE339 | Designed firefighting eVTOL drone for urban environments | Aug – Dec 2020 |
| AAE550 | Optimized rotor arm length and width for eVTOL hexacopter using multi-objective design optimization methods | Aug – Dec 2019 |

## TECHNICAL SKILLS

- NX
- C
- Matlab (IMAT)
- SolidWorks
- Python
- Femap
- Nastran
- Simulink
- Vibrata
- ANSYS