Ryan James Howard

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Objective

I am excited and fascinated by Advanced Air Mobility (AAM) 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 that saves time with zero carbon emissions.

Education

Purdue University, West Lafayette, IN — Aug 2016 – May 2021
BS in Aeronautical and Astronautical Engineering

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
- Paper accepted to AIAA Aviation 2021 conference

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 data processing
- Hands-on experience modal testing eVTOL vehicle
- Business Development experience including market research

Professional Organizations and Clubs

Vertical Flight Systems – President — Jan 2019 – May 2021

- Design, Build, and Fly eVTOL vehicle (~300 pounds)
- Fundraised $15,000+ to manufacture and test vehicle
- Coordinated with members, industry, and professors on purchase orders, design reviews, FAA certification
- Redesigned structural assembly, trimming 10% mass

Engineering Projects

Aircraft Design	Senior Design Project: VTOL Business Jet capable of 0.7 Mach at cruise with 6 passengers (OpenVSP/SolidWorks)	Jan – May 2021
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	June – Aug 2020

Technical Skills

- SolidWorks
- MATLAB
- Simulink
- NX Nastran
- OpenVSP
- FEMAP
- Excel
- ANSYS
- Vibrata
- PowerPoint