Ryan James Howard

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

May 24, 2021

To Hiring Manager:

I am excited to be applying for an engineering position at your company. I am interested in careers in aircraft design and analysis, systems engineering, and certification. I graduated in May with a BS in Aerospace Engineering from Purdue University and I am eager to contribute to the field of Advanced Air Mobility (AAM). I have worked on a wide range of UAM (Urban Air Mobility) projects, including design-build-fly, ground vibration testing, market research, economic analysis, and modeling the impact of aircraft weather-tolerance on operations. I am a certified Remote Pilot for sUAS (14 CFR Part 107). With my professional experience from a five-session co-op, undergraduate research, and academic background, I know that I have the skills and experience to be a positive addition to your organization.

Working as a Research Assistant within Purdue University's Aerospace System-of-Systems Laboratory helped me develop as an aerospace engineer. My team, directed by Dr. Dan DeLaurentis, Prof. Bill Crossley, and NASA advisor Michael Patterson, investigates operation limits for UAM. Through my research, I have gained experience building databases, designing operating cost models, conducting market analyses, and modeling UAM in metropolitan cities. In addition, I assisted my group in conducting case studies to evaluate the impact of operation limits on UAM. This culminated in serving as the primary author for a paper accepted to AIAA Aviation 2021 entitled "Assessing the Suitability of Urban Air Mobility Vehicles for a Specific UAM-Aerodrome Network".

In addition to research, I gained professional experience by completing five Co-Op sessions with ATA Engineering, Inc. Joining a small aerospace consulting company allowed me to engage in many types of problems, as I helped tackle challenges in design, test, analysis, and business development. I collaborated with full time engineers to solve nonlinear vibration analysis on complex structures, perform ground vibration tests on aircraft, use advanced signals processing techniques to analyze stresses for a launch vehicle, among other projects. This professional experience taught me to juggle multiple projects, work with groups of all sizes, learn proper balance of when and how to ask questions, and other practical technical skills. I am experienced with structural modeling and analysis tools like NX, FEMAP, and SolidWorks. I also worked on programming projects and I am proficient with MATLAB and Python 3.

I joined the Vertical Flight Systems team at Purdue to contribute toward the effort to design, build, and fly a full-scale eVTOL vehicle (300 pounds MTOW). I served multiple roles including the Structures Team Lead and President over 2.5 years. Not only did this develop my technical design skills by applying design, modeling, and analysis, I learned to work on a multidisciplinary team, project management, and maintained communication between team members, faculty, industry sponsors, and the FAA. We are registering our aircraft and flying under Public Aircraft Operations.

Above all, I am a passionate engineer striving to solve challenging aerospace problems. Through my balance of professional, academic, and extracurricular experiences, I have demonstrated that I am an effective communicator, dedicated team-member, maintain an upbeat attitude, and will be an asset to your team. Thank you for your time and consideration, and I hope to speak with you further.

Sincerely,

Ryan Howard