Zachary Hinkle
US Citizen 🐝 DFW Native
Active Secret Level Clearance
Connecticut

WORK HISTORY

Structural Engineer (Stress Analysis)—Compression Systems
Pratt & Whitney, Middletown, Connecticut   November 2022–Present
- Estimated stress in composite engine ducts using ANSYS workbench and ANSYS APDL
- Pioneered new practices for predicting composite delamination
- Developed new testing procedure for validating composite ducts
- Validated aforementioned FE models using test results

Lead Engineer/Graduate Student
Institute for Quantum Computing, University of Waterloo   September 2020–September 2022
- Designed and managed build of quantum computer for performing physics experiments
- Performed stress and thermal analyses to ensure safe operation of experiment
- Supervised team of undergraduates building and performing experiments
- Conducted weekly meetings to track progress of build and drive action item closure
- Ensured all teams met deadlines through maintenance of Gantt chart
- Developed risk mitigation plans to ensure long-lead parts did not cause delay
- Created and maintain BOM and CAD models of all assemblies
- Drew CAD models and 2D technical drawings of custom vacuum parts using SolidWorks
- Submitted RFQs of custom parts to machine shops and submitted orders as appropriate

Structural Engineer (Stress Analysis)—Helicopter Rotor Systems
Bell Textron Inc., Fort Worth, Texas   June 2019–September 2020
- Calculated safety margins using FE and hand analyses (net sections, T-over-4, etc.)
- Assisted sizing of nascent designs by strengthening parts with minimal weight gain
- Developed MATLAB scripts to better visualize and analyze fatigue stress
- Developed novel equations and methods to analyze bird strike on control components
- Wrote informal reports documenting analyses
- Developed stress equations to assist testing

EDUCATION
- Master of Science in Quantum Information Systems
- GPA: 86.25 (100.00 scale)
- Bachelor of Science in Mechanical Engineering
- Bachelor of Arts in Physics
- Cumulative GPA: 3.819 (4.000 scale)

SKILLS AND INTERESTS
- ANSYS, SolidWorks, CATIA, Excel, MS Word, PowerPoint, LaTeX, MATLAB, Python,
- Knowledge of: GD&T, System Modeling, Stress Analysis, Control Systems
- Conversational fluency in German, basic understanding of Farsi
- Graduate level proficiency in classical piano (20 years of study)
- Beekeeping, ham radio (general class license), marathon running, juggling, unicycling