

# Joseph Johnson

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## EDUCATION

Honors B.S. in Mechanical Engineering

3.75 GPA, Spring 2021

University of Texas at Arlington

- Honors Student
- Terry Scholar
- College of Engineering Dean's List

## TECHNICAL QUALIFICATIONS

Solidworks - Design, modelling and simulation; drawings and file handling for FDM airfoil modelling

Matlab – Emphasis in Dynamic analysis and simulation, using traditional and energy-based methods

Office Suite - Extensive use of Excel for data analysis, handling, presentation

ANSYS - Used in combination with analytical methods to determine stress/strain within system

## COMPLETED PROJECTS

Six Degrees of Freedom Rigid Body Simulation (Honors Project)

- Wrote simulating rigid body movement over a given time interval using ode45 integration.
- Program solves object position and orientation matrix over simulation time and plots body as axes in space.

UTA Aero Mavericks, Structures Division

- 2020 Structures Lead; Modelled frame components in Solidworks; specified materials and components with analytical and simulation based methods

Quadcopter Project

- Designed and stress-tested frame components in Solidworks to improve upon existing options. These designs were optimized for 3d printing and fabricated, providing a more robust quadcopter frame than was available.
- The design was upgraded to include FPV feed and real-time flight data, using BetaFlight configuration software.

## RELEVANT COURSEWORK

- Solid Mechanics
- Analytical and Computational Dynamics
- Computer Aided Engineering
- Automatic Controls Systems

## LEADERSHIP

- Structures Team Lead (Aero Mavericks) - coordinated development, CAD, and construction of AM-2020
- Vice President (Maverick Cycling Club) - oversaw social media presence, event planning, and university relations
- Eagle Scout (with Gold and Silver Palms) - served three terms Senior Patrol Leader, two terms Crew Leader