Ben Halley

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## Academic Achievement

## Iowa State University

Bachelors of Science in Aerospace Engineering – Cum Laude

Minor in Leadership Studies

Sigma Gamma Tau Aerospace Honors Fraternity

## Professional Summary

## Make:2:Innovate 01/2017 – 08/2018

CySAT Payload Team Lead

* Responsible for the design of a 3U CubeSat’s payload capable of reading soil moisture levels of the earth’s surface using a software defined radio based radiometer.

- This included overseeing the entire process from designing the satellite to multiple testing procedures, fabricating, and validating the 3U CubeSat

* Served as Team Lead along with two talented engineering students to create a functioning payload system, including an antenna using SolidWorks, circuit boards and RF front end using KiCad, and software in a Linux environment using Python.

- Responsible for testing the system using oscilloscopes, DMM’s, spectrum analyzers

* Using my leadership skills I was able to keep the project on schedule by prioritization and managing the team’s schedules.

- Working knowledge of government regulations

- COTS product research and validation and integration of the Payload into the CubeSat as a whole.

* Upon completion, CySat-1 will become Iowa’s first student group to launch a satellite designed and fabricated entirely by students.

## Boeing Senior Design Project 08/2017 – 04/2018

Team Member

* Working with a geographically diverse team of 12, we created a proposal and the design of a VTOL vehicle which was presented to Boeing engineers, who judged the group’s vehicle concept and presentation skills.
* This required utilizing trade studies, a full understanding of the customer’s requirements, market analysis, and technological research to make design decisions.
* Create 3D models of various configurations of the concept on SolidWorks, and then import, mesh, perform aerodynamic analysis on the models using Star-CCM+.
* Facilitated geographically diverse teamwork in a cross-disciplinary team using tools such as Google Hangouts, GroupMe, emails, and other online teamwork programs.
* As a team we presented the design to Boeing engineers in a Product Design Review and Conceptual Design Review.

- In both reviews. my group was judged to have the superior presentation.

**Core Competencies**

Leadership MATLAB Solidworks STAR-CCM KiCAD

Product Integration Microsoft Office Suite Customer Requirement Analysis

# Research Projects

* Civil Drone Ethics and Applications using Value Function 05/2017 – 12/2017
* Testing Effectiveness of Team Tutors using Virtual Environment 04/2017 – 08/2017
* Quantifying and Coding Value-Driven Design techniques using MATLAB 01/2015 - 05/2015

# College Leadership Experience

## Beta Sigma Psi Fraternity 08/2014 – 05/2018

* Fostered, encouraged, and inspired success in 8 different leadership positions including 2nd Vice President, IFC Representative, and Homecoming General Co-Chair, among others.
* Learned valuable leadership skills such as leading large and small groups, working and succeeding with difficult people, and successfully delegating tasks

Sunday School Teacher 09/2014 – 05/2018

## Habitat For Humanity Volunteer 09/2014 – 05/2018