Stephen Haviland

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U.S Citizen

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Education	**Bachelor of Aerospace Engineering and Mechanics**	Expected May 2012

College of Science and Engineering, University of Minnesota – Twin Cities, Minneapolis, MN
- GPA: 3.89
- Dean's List 4 Semesters

Skills

Languages : C/C++
Operating Systems : Windows 95, 98, XP, Vista and 7
Software: MATLAB/Simulink, Pro/ENGINEER, ANSYS Workbench, LaTeX and MS Office

Honors Thesis

Evaluating the Performance of VISNAV for Small UAV Operations
Advisor**:** Professor Demoz Gebre-Egziabher
Completion date: May 2012
- Integrating Elphel Camera with IMU and GPS on UAV
- Working on visual-based navigation algorithms

Experiences

NASA Internship	January 2011-July 2011

Dryden Flight Research Center
- Used a generic jet engine *Simulink* model to characterize C-17 Pratt&Whitney engines to predict engine performance at different flight conditions.
- Modified the *Simulink* model to drive the model via different engine parameters
- Predicted how high certain engine parameters could be driven on a close to end-of-life engine before engine damage occurred at varied ambient conditions.
- Developed and tested automated image tracking program using *MATLAB*'s Image processing toolbox to determine C-17 engine deflections during a ground test.
- Developed a User-Interfaced image tracking program using *MATLAB*'s Image processing toolbox to track a user-defined edge on a object.
- Helped coordinate the placement of the video cameras for the ground test with NASA & Air Force personnel.
- Successfully determined C-17 engine and aircraft deflections (within 0.2") during ground test.

NASA Internship	September 2010-December 2010

Ames Research Center
- Completed dynamic analysis of a rotary decelerator re-entry vehicle with emphasis on estimating descent velocities during autorotation phase of reentry.
- Animated simulations of a rotary decelerator in *MATLAB & Autodesk 3DS Max.*

Teaching Assistant	January 2010 –May 2010

Aerospace Engineering Department, University of Minnesota-Twin Cities
- Helped students with their understanding of the material covered in Mechanics of Flight course.

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Projects	**Senior Design-UAV Tilt Rotor**	September 2011- December 2011

Member, Propulsion
- Derived power requirements for different phases of flight.
- Selected commercial motor, battery, and propeller based on power requirements.
- Calculated maximum endurance for different flight profiles.

Twin Cities Red Bull Flugtag   April 2010-July 2010
- Designed and built flyable biplane glider.

Nanosat-6 Satellite project

Member, Communications Team   May 2010-August 2010
- Tested and Integrated the S-Band radios.
- Verified Link Budget calculations.

Team Lead, Structure team   September 2009-August 2010
- Led team of six engineering students.
- Ensured satellite met all structural requirements set by Air Force Research Lab (AFRL).
- Used *ANSYS Workbench* to analyze the satellite's structure under flight conditions.

Member, Structure team   February 2009-September 2009
- Responsible for designing and modeling the satellite using *Pro/ENGINEER.*

Awards	Frank Louk Scholarship	2011
	Robert H. & Marjorie F. Jewett Scholarship	2009
	Math Student of the Year, Inver Hills Community College	2008
	High School Hobey Baker Character Award, Hastings High School	2006

Activities	Member, AIAA Student Chapter	March 2010-Present
	Member, Mentor Program	September 2009-Present
	Member, Honors Program	September 2009-Present
	Member, Tau Beta Pi Honor Society	April 2009-Present