# William R. Paape

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## EDUCATION

**The University of Notre Dame** Notre Dame, IN
Bachelor of Science Major: Aerospace Engineering May 2013
GPA: 3.31/4.0

## SKILLS

Ruby on Rails (ActiveRecord, SQL), Javascript (React, jQuery, RequireJS), RegExp, HTML, CSS/SCSS, Git, Heroku, MATLAB/SIMULINK, C, UNIX, FORTRAN, SAP 2000, CAD/CAM, Pro/ENGINEER, Oscilloscope, Power Point, Excel

## RELEVANT COURSE WORK

**ActiveRecord Baby**

Open Ended Ruby on Rails Final Project—over the course of two weeks flipped an empty Trello board to deploying a functional and responsive Heroku app in time for a scheduled presentation. The app serves as a tutorial for the Rails ActiveRecord library by exploring problem sets concerning the retrieval of data from a variety of database environments through simple GUI actions and an interactive editor.

- Became familiar with Active Record, the Rails Logger, Regular Expressions, and the javascript libraries React, jQuery, and RequireJS beyond the scope of the course curriculum
- Users (authenticated and verified by devise) can submit their 'solution' method for a particular problem to a leaderboard ranking correct answers by 'total time to execute' and displaying other feedback such as 'total number of database queries' and 'total query time' retrieved from log entries
- By comparing their answers to others on the leaderboards, users can get a feel of the efficiency of their ActiveRecord queries and become more familiar with more advanced/lesser known methods of query-building

**Fundamentals of Measurements and Data Analysis**

Open Ended Solar Panel Final Project—worked with a partner to determine empirically the response characteristics of multiple solar panels. The panels could then be used as predictable measurement devices for ancillary experiments.

- Became familiar with oscilloscopes
- Shined DC flashlights and AC bulbs on solar panels connected in series to an oscilloscope and determined the response characteristics of the light source to a step input (switch on) both mathematically (modeled light-panel systems with $2^{nd}$ order ordinary differential equations) and experimentally (regression analysis from oscilloscope data)

**Gas Turbines and Propulsion**

Cruise Missile Final Project—performed an on- and off-design engine analysis for a Williams International F107-WR-101 turbofan engine.

- An engine deck program mimicking the performance of the turbofan power plant for an AGM-86 air-launched cruise missile (ALCM) was constructed
- This engine deck was implemented into a previously constructed terrain-following mission analysis program to simulate and track the performance of the ALCM from deployment to detonation
- Open Ended Engine Optimization—sensitivity and influence analyses were performed on the modeled turbofan engine deck and parameters were adjusted for the best mission performance

## EXPERIENCE

**Lifesize, a division of Logitech** (August 2014-October 2014)

Lifesize is a video and audio telecommunications company in the United States which provides high definition videoconferencing endpoints and accessories, infrastructure products and a cloud-based video collaboration platform

**Hardware Lab Intern**

- Interned at Lifesize hardware development lab.
- Beginning to work with oscilloscopes, circuit board schematics, and mechanical assemblies.

**Safeway** (April 2014-current)
**Austin, Texas**

Safeway is the 11th largest retailer in the United States

**Customer Associate**

- Operate cash register, serve customers in a friendly and courteous manner to build confidence and loyalty.

**Raytheon** (June 2012-August 2012)
**Woburn, Massachusetts**
Raytheon develops integrated products, services, and solutions in the areas of sensing; effects; command, control, communications, and intelligence; mission support; and cyber and information security worldwide.
**Systems Engineer Intern**

- Interned at Raytheon's Missile Defense Center as a systems engineer.
- Maintained flow of IT hardware (servers, routers, hard drives) in a radar laboratory.
- Verified schematics of the lab layout.
- Booted computers with Linux OS.
- Obtained US Secret Security Clearance.

**University of Notre Dame** (August 2011-December 2011)
**Notre Dame, Indiana**
**Teacher's Assistant for *Engineering Differential Equations, Vibrations, and Control***

- Tutored and graded papers for junior-level aerospace/mechanical engineering course. Initially hired as a grader, my professor asked me to take on an expanded role as a TA and to tutor students.

## HONORS

- National Merit Commended Scholar
- National Honor Society
- Mu Alpha Theta (National High School Mathematics Honor Society)
- TCHSCA Academic All-State Football 1st Team 08-09
- Westlake High School Top 5% Graduation with Honors GPA/Class Rank: 95.63 25/572

## ACTIVITIES

**AIAA**

- Active member of the Notre Dame chapter of the American Institute of Aeronautics & Astronautics
- Participant in Notre Dame's *Design, Build, Fly* Competition team for 2010 - teams of students from across the country compete to design, build, and fly their own designed RC aircraft

**Bengal Bouts - University of Notre Dame**

- *Semi-finalist (182lb.)* Spring 2011, *Semi-finalist (192lb.)* Spring 2012
- Contributed to raising over $100,000 as a boxing event fundraiser for the poor in Bangladesh
- Practiced 15 plus hours each week for 6 months in preparation for the tournament

**Notre Dame Texas Club**

- Helped coordinate two fundraising barbeques and a barnyard dance

**West Austin Youth Association - Little League Umpire**

- Developed ability to think on my feet and resolve problems quickly while incorporating all pertinent information
- Learned to work as a team with other umpires to efficiently manage games

**Mobile Loaves and Fishes**

- Bi-monthly volunteer for food distribution service to the homeless in Austin Texas
- Summer of 2011—served 150 hours as commissary maintenance man

**Other Volunteer Experience**

- Settlement/Helping Hands Home for Children—active member of the 2008 Community Youth Council
- Hospice Austin—helped raise funds for Austin's hospice program