

# ZACH C. ROMANO

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## EDUCATION

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### University of Illinois at Urbana-Champaign

*Bachelor of Science, Aerospace Engineering*

• Dean's List August 2013- May 2014

Expected May 2017

GPA: 3.74/4.00

## EXPERIENCE

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### Ford Motor Company

*Engine Test Team Intern*

Livonia, MI

May 2016-August 2016

- Created a simulation in Matlab of an engine under cold test conditions that predicted waveforms for potential manufacturing flaws
  - Included a simple-to-use GUI for the engine geometry inputs and settings
  - Plotted the engine's torque and intake vacuum waveforms
- Wrote a company-wide instruction manual for a device that converts the new SAE protocol for digitally encoded signals into analog signals that their current systems could analyze
  - Configured five modules that were installed in engine plants using the wiring diagram in my manual
  - Performed demonstration on how the module worked and set up a demonstration in our lab using hexadecimal encoding, low-pass-filters, and basic circuitry

### Caterpillar

*Design Team Student Practicum*

Champaign, IL

May 2015-November 2015

- Constructed simulated stress models and found deformation and tensile stress data using finite element analysis on transmission gears resulting in their approval or rejection
- Performed research on multiple transmission's inner workings and power flow
- Developed as-cast Creo models that would go on to be used to make 3-D printed sand molds
- Collaborated with suppliers to determine what machining and casting processes were possible and the most cost-effective means of production
- Upgraded assemblies and engineering prints to include a future option on a Motor Grader

## LEADERSHIP AND ACTIVITIES

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### Student Space Systems

*Elected Treasurer*

Champaign, IL

August 2014-May 2016

- Administered the allocation of funds for the club of over 100 members
- Our team constructed a rocket that achieved 36,000 ft. in 2016

### SAE Baja

*Chassis Analysis Team*

Champaign, IL

August 2015-May 2016

- Utilizing my knowledge of FEA to perform analysis on the chassis for first time
- Working on weight reduction by improving frame design

## Technical Skills

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- MatLab (Expert Level)
- Java
- HTML/CSS
- NX CAD Software
- Creo CAD Software
- Creo Simulate Finite Element Analysis Software

## Honors

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### Youth of the Year For Illinois

April 2013-April 2014

- Boys and Girls Club's highest leadership recognition for outstanding service to the club
- Gave speeches in Chicago and Springfield to Illinois Senate and the CEO of Tupperware

### Engineering Visionary Scholarship

August 2014