

# Josh Bender

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## EDUCATION

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### VANDERBILT UNIVERSITY

*Bachelor of Engineering: Biomedical Engineering*  
*Bachelor of Science: Mathematics*

- GPA: 3.79/4.00
- Dean's List

Nashville, TN  
Expected May 2018

### MERCER ISLAND HIGH SCHOOL

*High School Diploma*

- GPA: 3.80/4.00
- ACT: 35

- AP Scholar with Distinction
- National Honor Society

Mercer Island, WA  
Jun 2014

## RESEARCH EXPERIENCE

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### Merryman Mechanobiology Lab – Vanderbilt University

*Undergraduate Research Assistant*

- Perform research in a mechanobiology lab under the direction of Dr. W. David Merryman. Performed histology as part of a study on cardiac fibrosis formed after myocardial infarction, and wrote a MATLAB program to color threshold images of cardiac tissue.
- Currently working on a simultaneous cryo-anchoring and radiofrequency ablation catheter designed to treat mitral valve prolapse. Responsible for designing, constructing, calibrating, and troubleshooting catheters. Investigating the effects of ablation on the mechanical properties of mitral valve tissue via orientation analysis of connective tissue and planar biaxial testing.

Nashville, TN  
Jan 2016 – Present

### Davis Lab – University of Washington

*Summer Research Assistant*

- Worked in Dr. Jennifer Davis' bioengineering lab as a summer research assistant. Initiated an *in vitro* gene editing project using CRISPR-Cas9 by designing RNA guide sequences to target specific genetic loci.

Seattle, WA  
May 2016 – Aug 2016

## WORK EXPERIENCE

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### The Home Depot

*Garden Associate*

- Greeted customers and ascertained the desires of each customer. Described merchandise, explained use, operation, and care to encourage sale.

Issaquah, WA  
May 2015 – Aug 2015

### Storybook Farm

*Farmhand*

- Repaired electric fence, repaired automatic water dispensers, repaired gates, moved hay bales, fed and turned out horses, cleaned stalls.

Issaquah, WA  
June 2014 – Aug 2014

## ADDITIONAL SKILLS / HOBBIES

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- Computer skills: Microsoft Office, MATLAB, Wolfram Mathematica, R (Statistical Computing Language)
- EMR Certified in the State of Tennessee
- Volunteer with Vanderbilt LifeFlight as a first responder and Vanderbilt University Hospital in the emergency room
- Vanderbilt VORTEX percussion ensemble
- Vanderbilt Spirit of Gold Marching Band
- Performed with a country western band as the lead guitar, pedal steel, and mandolin player
- Auto mechanic – Rebuilt the engine of a 1993 Ford Bronco