



# AGRICULTURAL & BIOLOGICAL ENGINEERING

## C A R E E R P R O F I L E

### Overview

Agricultural and Biological Engineers apply scientific and engineering principles to production systems involving agriculture, food, environment, and energy; natural resources; environmental protection for plants, animals, and humans; and related biological systems. They develop technologies and apply management strategies to increase agricultural productivity, generate renewable energy, and provide a sustainable environment.

**Average Starting Salary (Bachelor's Degree):** UIUC- \$61,000

### Skills and Interests Important to Agricultural Engineers

- Machine design and development
- Interest in biological sciences
- Research skills
- Critical thinking and complex problem solving
- Systems analysis and evaluation

### Sample Job Titles

- Agricultural and Food Scientist
- Biological Engineer
- Consulting Engineer
- Design Engineer
- Environmental Engineer
- Process Engineer
- Waste Specialist
- Water Resource Engineer

### Sample Companies Recruiting Agricultural Engineers

- Anheuser Busch
- Archer Daniels Midland
- Caterpillar
- CNH Global
- Dow
- ExxonMobil
- General Mills
- John Deere
- Kraft Foods
- Monsanto
- Pepsico
- Woods Equipment Co.

### Getting Involved

#### Campus Organizations:

- American society of Agricultural and Biological Engineers (Illinois Chapter), <https://sites.google.com/site/illinoisasabe/>
- ASABE Robotics Competition, <http://abe-research.illinois.edu/ASABERobotics/index.html>
- Illini Agricultural Mechanization Club, <https://www.facebook.com/groups/160048984018826/>
- Illini Pullers (ASAE Quarter Scale Tractor Design Team), <http://abe-research.illinois.edu/StudentClubs/illinipullers/mainpage.htm>

#### National Organizations:

- American Society of Agricultural Engineers <http://www.asabe.org/>

# STEPHEN A. SMITH

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## Education:

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<b>University of Illinois</b>	Urbana-Champaign, IL
Bachelor of Science in Agricultural and Biological Engineering	May 2016
Concentration: Power & Machinery	GPA: 3.5/4.0
<b>Joliet Junior College</b>	Joliet, IL
Associates Degree in Agricultural Science, May 2014	GPA: 3.8/4.0

## Related Experience:

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<b>Caterpillar Inc.</b>	Peoria, IL
<i>Test Engineer Intern</i>	Summer 2015
<ul style="list-style-type: none"><li>• Simulated the braking characteristics of the 735 Articulated Trucks to test durability and stability</li><li>• Developed control strategies for the cooling package on the M-Series Motor Graders</li><li>• Worked with design engineers to finalize testing objective, action plan and projected results</li><li>• Presented suggestions to design engineers/team leads and successfully defended my position</li></ul>	
<b>Woods Equipment Company</b>	Oregon, IL
<i>Engineering Intern</i>	Summer 2014
<ul style="list-style-type: none"><li>• Redesigned equipment for cost saving and assembly by outsourcing manufacturers</li><li>• Tested and documented competitors' products and compared to existing Woods equipment</li><li>• Completed engineering change requests for product designs</li></ul>	
<b>Blain's Farm &amp; Fleet</b>	Morton, IL
<i>Sales Associate/Stock Worker</i>	Summer 2012, 2013

## Project Experience:

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<b>ACES-UIUC &amp; Smith Brothers Farms (Co-op)</b>	Urbana-Champaign, IL
<i>Research Assistant</i>	Fall 2014
<ul style="list-style-type: none"><li>• Designed grain facility expansion in AutoCAD to improve efficiency and capacity by 15% each</li><li>• Created GPS/GIS maps showing drainage, surface drainage, and historical profiles of soil tests</li><li>• Negotiated with seed and fertilizer representatives to secure over 2200 acres of product</li><li>• Operated agricultural product equipment an average of 60 hours per season</li></ul>	

## Computer Skills:

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AutoCAD	C++	Microsoft Windows
CADD	Visual Basic	Microsoft Excel
Matlab	Unix	Microsoft PowerPoint

## Leadership & Honors:

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Alpha Gamma Rho Professional/Social Fraternity	August 2013 – Present
American Society of Agricultural Engineers	September 2012 - Present
Illinois Leadership Center, Leadership Certificate	May 2014