

# James Han

## Data Scientist

St. Louis, MO - Email me on Indeed: [indeed.com/r/James-Han/40aefd0df25160d5](https://www.indeed.com/r/James-Han/40aefd0df25160d5)

- Use data to tell stories in a fast-paced attention driven world.
- Agriculture and Data Science Professional with 10+ years experience in data modeling, plant ecology, weed science, and plant disease protection and pest management in leadership roles with entrepreneur experience.
- Expertise in Model Development, Data Mining, Predictive Modeling, Data Visualization, Data Clearing and Management, and Database Management.
- Results oriented professional who enjoys working in a fast-paced and agile development environment that improves client outcomes.

Willing to relocate: Anywhere

Authorized to work in the US for any employer

### WORK EXPERIENCE

#### Data Scientist / Data engineer

The Climate Corporation - St. Louis, MO - February 2017 to Present

Use tremendous market and research data in ag space to analyze and engineer farmer's problems and provide better solutions.

Keywords include R, Python, API, SQL, PostgreSQL, machine learning, deep neural network.

#### Data Scientist Postdoc

University of Nebraska Lincoln - Agronomy - Agriculture - Data Science - Data Analytics - Lincoln, NE - December 2016 to January 2017

- Utilize predictive modeling and Lateral PHP framework to develop a fertilizer leaching estimate web app for the US Corn Belt.
- Develop a web app for forecasting current year grain yield by predictive modeling and Lateral PHP framework.

#### Data Scientist

Freelance Data Scientist in AgTech - Lincoln, NE - October 2016 to January 2017

Projects:

- Use 9 million data entries to apply machine learning algorithms on predicting crop yield across the United States
- Provides freelance AgTech services on forecasting grain yield, water stress, crop stage, and nitrogen requirement and leaching via REST API in the JSON format
- Services include to individuals or agricultural decision support platforms
- <http://ispagtech.com>

#### Graduate Research Assistant

University of Nebraska-Lincoln - Lincoln, NE - January 2013 to December 2016

- Led a software engineering team to design, develop and modify 3 irrigation web apps
- Led a mobile team to develop 2 mobile irrigation apps
- Used meteorology models, hydrology models, and mathematical models to predict crop growth and development, yield forecasting, ET, soil water, risk management
- Used Google Map API and SSURGO database to develop a GIS-based soil texture averaging algorithm.

- Used statistical methods to validate and calibrate crop models incorporating with ground truth data
- Conducted field experimental design and ground truth data collection for 2+ years
- Managed farmers data in MySQL and analyzed them by statistic methods
- Accessed weather, soil, and map API for data platform development

### **Teaching Assistant**

University of Nebraska-Lincoln - Lincoln, NE - January 2013 to December 2016

- Taught a graduate level crop modeling class for 2 years, 30+ graduate students.
- Taught an undergraduate level biology course with a total of 50 students.
- As an invited instructor for a grad/undergrad level irrigation management course for 2 years.

### **Research Assistant**

West central research and extension center - North Platte, NE - August 2010 to December 2012

- Analyzed statistics on grassland biological responses to plant invasion on soil water depletion and root competition
- Conducted field experimental design and ground truth data collection for 2+ years
- Collected and analyzed root image data for 2+ years

### **Research Associate**

South China Agricultural University - Guangzhou, CN - September 2007 to June 2010

- Conducted 3 years field trials on testing the effects of different herbicides on an orchard

### **Student Technician**

South China University of Tropical Agriculture - Hainan, CN - June 2005 to June 2006

Manage a vegetable farm which grew potato, tomato, green onion, pepper, grapes, nappa cabbage, cabbage, lettuces, cucumber, eggplant, and pumpkin

## **EDUCATION**

### **PhD in Crop Modeling**

University of Nebraska-Lincoln - Linden, NE  
January 2013 to December 2016

### **MS in Plant Ecology**

University of Nebraska-Lincoln - Lincoln, NE  
August 2010 to December 2012

### **MS in Weed Science**

South China Agricultural University - Guangzhou, CN  
September 2007 to June 2010

### **BS in Plant Disease Protection and Pest Management**

South China University of Tropical Agriculture - Haikou, CN  
September 2003 to June 2007

## **LINKS**

<http://cornsoywater.unl.edu>

<http://cropwatch.unl.edu/2016/cornsoywater-online-app-aid-irrigation-managements>

<http://www.slideshare.net/JamesHan19>

## GROUPS

### **Rotary #14 Lincoln**

September 2015 to Present

One of the biggest international service organization

<http://www.rotary14.org/>

## PUBLICATIONS

### **CornSoyWater, a web and mobile app for irrigation decision making on corn and soybean. Computer and Electronic in Agriculture**

October 2016

Submitted to Computer and Electronic in Agriculture

### **Validating Hybrid-Maize Model on Crop Growth and Water Use under Variable Irrigation in Nebraska**

September 2016

Submitted to Agronomy Journal

### **CornWater: An irrigation Decision Support for Corn Fields. Agronomy Journal**

September 2016

Submitted to Agronomy Journal

### **Invasion during Extreme Weather: Success and Failure in a Temperate Perennial Grassland**

<https://muse.jhu.edu/article/638703/pdf>

September 2016

### **Root Growth of Two Perennial Grass Types and Musk Thistle (*Carduus nutans*) in Temperate Grasslands of North America**

<http://www.wssajournals.org/doi/abs/10.1614/IPSM-D-13-00081.1>

September 2014

### **Drought and Grazing Disturbances and Resistance to Invasion by Warm-and Cool-Season Perennial Grassland Communities**

<http://er.uwpress.org/content/32/1/28.short>

March 2014

### **Ecology of Musk Thistle (*Carduus nutans*) Seed Germination for Grasslands of Temperate Climates**

<http://www.wssajournals.org/doi/abs/10.1614/WS-D-13-00015.1>

October 2013

### **Productivity of FieldPea (*Pisumsativum* L.) and Spring Oat (*Avena sativa* L.) Grown as Sole and Intercrops Under Different Nitrogen Levels**

<http://www.ccsenet.org/journal/index.php/jas/article/view/18937>

September 2012

## ADDITIONAL INFORMATION

### SKILLS SUMMARY:

#### Data Analytics

- R (2 years)
- Python (Less than 1 year)
- MySQL (2 years)
- SAS (4 years)
- Machine learning (1 year)
- Data Mining (1 year)
- Data Visualization (6 years)
- Data Clearing and Management (3 years)
- Database Management (2 years)
- Experimental design (6 years)

#### Programming

- Java (1 year)
- Javascript (1 year)
- PHP (Less than 1 year)
- HTML (1 year)
- Git (2 years)
- Github (2 years)
- Bash (2 years)

#### Business Analytics

- Microsoft office (10+ years)
- Wordpress (Less than 1 year)
- Google Analytics (1 year)
- Tableau (Less than 1 year)
- Spotfire (1 year)
- Entrepreneurship (3 years)

#### Statistics

- Predictive modeling (4 years)
- ANOVA (4 years)
- Linear regression (4 years)
- Nonlinear regression (2 years)
- Sensitivity analysis (2 years)
- Bayesian analysis (Less than 1 year)
- Time series analysis (2 years)

#### GIS & Remote sensing

- Google map API (1 year)
- ENVI (Less than 1 year)
- ERDAS (Less than 1 year)
- Spatial dataset analysis (Less than 1 year)

### RESEARCH

- PhD research <http://www.slideshare.net/JamesHan19>

#### APP

- New irrigation app <http://cornsoywater.unl.edu>
- Irrigation app for corn <http://cornwater.unl.edu>
- Irrigation app for soybean <http://soywater.unl.edu>
- iPhone app <https://itunes.apple.com/us/app/cornsoywater/id979706028?mt=8>
- Android app <https://play.google.com/store/apps/details?id=edu.unl.cornsoywater&hl=en>

#### BUSINESS

- Freelance Data Analytics <http://ispagtech.com>
- LinkedIn <https://www.linkedin.com/in/james-han-4b68493a>
- Github <https://github.com/itsjameshan>
- YouTube <https://www.youtube.com/channel/UCmMDqS02XwyzFXr4yIRDXRQ>