

# YUNYI SHEN

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## EDUCATION

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PERIOD	<b>November 2019 — May 2021 (expected)</b>	
DEGREE	<b>Master of Science in Statistics</b>	
INSTITUTE	<b>University of Wisconsin-Madison</b>	Madison, USA
PERIOD	<b>August 2018 — May 2021 (expected)</b>	
DEGREE	<b>Master of Science in Wildlife Ecology</b>	
INSTITUTE	<b>University of Wisconsin-Madison</b>	Madison, USA
PERIOD	<b>August 2014 — July 2018</b>	
DEGREE	<b>Bachelor of Science in Integrated Science/Physical Biology</b>	
INSTITUTE	<b>Peking University</b>	Beijing, China

## RESEARCH PROJECTS

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PERIOD	<b>May 2020 —</b>	
ADVISOR	<b>Claudia Solís-Lemus</b>	UW Madison
TITLE	<b>Bayesian Conditional Auto-regressive LASSO for sparse graphic learning with predictors</b> Develop Bayesian conditional auto-regressive LASSO model and its extensions for high dimensional sparse regression and graphic selection.	
PERIOD	<b>January 2019 — April 2020</b>	
ADVISOR	<b>Tim Van Deelen, Brian Yandell</b>	UW Madison
TITLE	<b>Spatially Explicit Modeling of Community Occupancy using Markov Random Field Models with Imperfect Observation: Mesocarnivores in Apostle Islands National Lakeshore</b> Develop zero-inflated auto-logistic regression model for spatial explicit modeling of animal species distribution and interactions.	
PERIOD	<b>October 2018 — April 2020</b>	
ADVISOR	<b>Tim Van Deelen, Dwayne Etter</b>	UW Madison
TITLE	<b>Population Reconstruction of White Tailed Deer under Intensive Harvest</b> Develop a dynamic Bayesian network model for time series data in intensive management of white tailed deer.	

PERIOD **October 2016 — October 2017**  
 ADVISOR **Sheng Li** Peking University  
 TITLE **Distribution Mapping of Asiatic Black Bear**  
 Distribution modeling of black bear using data from multiple sources with various spatial resolutions with Random Forest model. Develop method for result fusion.

## PUBLICATIONS AND PREPRINTS

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- YEAR **2020**
- [1] **Yunyi Shen**, Timothy Van Deelen "Spatially Explicit Modeling of Community Occupancy using Markov Random Field Models with Imperfect Observation: Mesocarnivores in Apostle Islands National Lakeshore" *Biorxiv (under review of Ecological Modelling)*
  - [2] **Yunyi Shen**, Claudia Solís-Lemus "Bayesian Conditional Auto-regressive LASSO for sparse graphic learning with predictors" (*in prep*)
  - [3] **Yunyi Shen**, Mingzhang Liu, Dajun Wang and Sheng Li "Identify critical knowledge gap and conservation needs of threatened large mammal through high-resolution mapping: case of Asiatic Black Bear, China" (*in prep*)
- YEAR **2019**
- [1] Jianping Yu, **Yunyi Shen**, Xiaoyou Song, Xiaonan Chen, Sheng Li and Xiaoli Shen "Evaluating the effectiveness of the functional zones for the protection of black muntjac (*Muntiacus crinifrons*) in the Qianjiangyuan National Park" *Biodiversity*(in Chinese)

## CONFERENCE PRESENTATIONS AND POSTERS

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- YEAR **2020**
- [1] **Yunyi Shen**, Dwayne Etter, Tim Van Deelen, "Age structure effects and population control in urban/suburban white-tailed deer, Chicago, IL 1992-2006" *2020 Midwest Fish and Wildlife Conference*
- YEAR **2019**
- [1] Dwayne Etter, John Humphreys, Tim Van Deelen, Gary Roloff, **Yunyi Shen** "Managing White-tailed Deer Under a Newly Evolving Paradigm: A Demonstration of the Effects of Density-Dependence" *2019 annual TWS conference*
- YEAR **2017**
- [1] **Yunyi Shen**, Dajun Wang, Sheng Li "Identify critical knowledge gap and conservation needs of Asiatic Black Bear through high-resolution mapping" *Chinese Chapter of SCB Annual Conference 2017* Best graduate student presentation award
- YEAR **2016**
- [1] Jinlin Chen, Xi'er Chen, Haowen Liu, **Yunyi Shen**, Yichao Zeng, Lijie Yin "Biodiversity survey in Chongzuo examined effects of the white-headed langur (*Trachypithecus leucocephalus*) as a flagship species on habitat conservation" *Conservation of China's Tropical Diversity (Poster)*

## R PACKAGES

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TITLE **Ising0ccu**  
 DESCRIPTION Gibbs sampler for a zero-inflate auto-logistic model with auto-logistic zero-inflation process, available on GitHub.

TITLE **ReCAP**  
 DESCRIPTION **R**econstruction of **C**ulled and **A**erial counted **P**opulations. Integrated population model used to reconstruct population dynamics using culling and aerial count data, available on GitHub.

## PROFESSIONAL POSITIONS

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PERIOD	<b>January 2019 — December 2019</b>	
EMPLOYER	<b>Qianjiangyuan National Park</b>	Zhejiang China
TITLE	<b>Statistical Consultant</b>	
	Black muntjac population and distribution modeling	
PERIOD	<b>June 2017 — July 2018</b>	
EMPLOYER	<b>Peking University Biology Museum</b>	Beijing China
TITLE	<b>Docent</b>	
	Science communication manuscript writing, automatic guiding system construction, guide visitors	

## OUTREACH POSITIONS

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PERIOD	<b>2016</b>	
EMPLOYER	<i>Bo Wu</i> (Chinese National Geography Magazine)	Beijing China
TITLE	<b>Editor</b>	
	Edit science communication manuscripts	

## GRANTS

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POSITION	Co-investigator
AGENCY	USDA 142 Formula Fund
NUMBER	

## AWARDS AND SCHOLARSHIPS

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YEAR	<b>2019</b>	
AWARD	Conservation Leader for Tomorrow Scholarship	IL U.S.A.
YEAR	<b>2017</b>	
AWARD	Annual Award in Social Works	Peking University
YEAR	<b>2015</b>	
AWARD	Second Award in Jiang Zehan Cup of Modeling	Beijing, China
YEAR	<b>2013</b>	
AWARD	Silver Medal in Chinese Chemistry Olympiad	Beijing, China

## TEACHING

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SEMESTER	<b>Fall 2019</b>	
INSTITUTE	UW Madison	
COURSE	<b>General Chemistry (CHEM 103)</b>	<b>TA</b>

SEMESTER	<b>Spring 2019</b>	
INSTITUTE	UW Madison	
COURSE	<b>General Chemistry (CHEM 104)</b>	<b>TA</b>
SEMESTER	<b>Spring 2018</b>	
INSTITUTE	Peking University	
COURSE	<b>ESL for Non-Academic Staffs</b>	<b>Instructor</b>
SEMESTER	<b>Fall 2017 &amp; Fall 2016</b>	
INSTITUTE	Peking University	
COURSE	<b>Evolution of Human Intelligence</b>	<b>TA</b>
SEMESTER	<b>Spring 2016</b>	
INSTITUTE	Peking University	
COURSE	<b>Undergraduate Seminar in Genetics</b>	<b>TA</b>
SEMESTER	<b>Summer 2015 &amp; Summer 2014</b>	
INSTITUTE	Xi'an No.1 (2015)/Tieyi (2014) High School	
COURSE	<b>Chinese Chemistry Olympiad (CChO)</b>	<b>Instructor</b>