

# Beichen Tian

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Web Portfolio: <https://beichentian-gis.github.io/>

## EDUCATION

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09/2016-08/2017 Department of Geography, **University of Wisconsin-Madison**

☞ **Major:** Capstone Certificate in Cartography and Geographic Information System

09/2014-05/2016 Department of Urban and Regional Planning, **University of Wisconsin-Madison**

☞ **Major:** M.S. in Urban and Regional Planning (GIS & environmental planning emphases)

01/2013-12/2013 Department of Earth Science, **Emporia State University**

☞ **Major:** Earth Sciences (exchange program)

09/2010-01/2013 Department of Natural Resource & Urban Planning Management, **South China Normal University**  
12/2013-07/2014

☞ **Major:** B.S. in Natural Resource and Urban Planning Management

## CERTIFICATIONS

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☞ **Geographic Information Systems Professional** | GISCI | Application in Progress

Passed Certification Exam on 06/15/2017

☞ **ArcGIS Desktop Associate 10.1** | ESRI | Starting January 2016

Certificate Code: EADA101 | Verification#: RD18HYEK2NBEKX35

☞ **WELL AP** | IWBI | Starting December 2019

Credential ID: WELL-AP-0000055982

☞ **LEED AP Building Design + Construction** | USGBC | Starting March 2019

Credential ID: 11053440-AP-BD+C

☞ **LEED AP Interior Design + Construction** | USGBC | Starting April 2018

Credential ID: 11053440-AP-ID+C

☞ **LEED AP Neighborhood Development** | USGBC | Starting June 2018

Credential ID: 11053440-AP-ND

## PROFESSIONAL EXPERIENCES

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01/2019-05/2019 **Graduate Teaching Assistant, Department of Geography, Penn State University**

☞ Taught four lab sections per week for GEOG 6N: [Maps and Geospatial Revolution](#).

☞ Guided and graded students' lab assignments and term projects (80+ students in charge).

☞ Delivered guest lecture talks on featured cartography topics (Chernoff face mapping, take 2016 the U.S. presidential election as an example).

08/2018-12/2018 **Graduate Research Assistant, Friendly Cities Lab, Department of Geography, Penn State University**

☞ Analyzed geographic distribution, intensity, and network structure of telecommunication flows (e.g. SMS/ text messages, phone calls) between Syrian refugees in Turkey and Turkish natives in 2017.

☞ Researched and visualized activity spaces and trajectories for each phone call individual based on the spatial and temporal attributes of their phone calls.

☞ Prepared reports on data analysis results and compiled documentation on cartographic products.

09/2017-08/2018 **GIS Analyst/ Cartographer, Center for Sustainability and the Global Environment, UW-Madison**

☞ Analyzed irrigation changes by crop types, agricultural land use changes, their spatial relationships, and the corresponding bio-fuel policy indications within the conterminous U.S. from 2002 to 2015.

☞ Evaluated the impacts of cropland conversions on habitat suitability (e.g. changes in milkweed distributions, species population, pesticide uses, etc.) and other land use/ cover losses using [NRI](#) dataset and so on.

☞ Compared NRI cropland change areas with raster cropland change trajectory to detect false conversions.

05/2017-08/2017 **GIS Developer, Wisconsin State Cartographer's Office (Wisconsin SCO), UW-Madison**

☞ Debugged/ updated user interface for the web application '[Wisconsin Historic Aerial Imagery Finder v.2016](#)'.

☞ Standardized Illinois land parcel query schemas and to test JSON geometry availability using Python.

☞ Used Python to convert JSON geometries to GeoJSON then export results to database table using QSpatialite.

12/2016-08/2017 **Ecological GIS Technician, Department of Forest and Wildlife Ecology, UW-Madison**

☞ Digitized polygons and edit attributes for [historical land cover maps of Wisconsin counties](#) using ArcGIS.

- ☞ Merged/ georeferenced fragmented riparian townships using Photoshop and/ or ArcGIS.
- ☞ Managed digitized historical land use and PLSS data on Github.

#### 10/2016-12/2016 **Group GIS Lead in Infectious Disease Mapping Challenge, U.S. Department of State**

- ☞ Mapped the geographic and temporal spread of recent vector-borne Yellow Fever in Central Africa.
- ☞ Overlapped and analyzed the disease's case distribution with social or environmental determinants of health.
- ☞ Briefed officials from D.C on research findings, which may be used to inform policy decisions.

#### 06/2015-08/2015 **Comprehensive Transport Planning Intern, Transport Planning and Research Institute (TPRI), Ministry of Transport (Division of Integrated Transport Research)**

- ☞ Calculated transportation network density and connectivity for the City of Quzhou, by means of TransCAD.
- ☞ Prepared written report on regionalized parking policy zones for various transport planning projects.
- ☞ Organized public participation meetings with over 50 governor attendees during pre-planning stage in Quzhou.

#### 12/2013-02/2014 **Urban Regional Planning Intern, Zhuhai Institute of Planning and Design**

- ☞ Assisted with GIS map drawing and archiving by using ArcGIS.
- ☞ Rectified multiple design-used CAD basemaps by using AutoCAD.
- ☞ Designed and created conceptual 3D city model of Hengqin Development Zone for the City of Zhuhai.

### **AWARDS & HONORS**

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- 05/2019 Academic Enrichment Funding for AAG conference travel, PSU
- 05/2018 The Second Place for Barbara Bartz Petchenik Memorial Award in Cartographic Design, UW-Madison
- 05/2017 Honorable Mention for Barbara Bartz Petchenik Memorial Award in Cartographic Design, UW-Madison
- 02/2017 Runner-Up for Most Unique Map in WLIA Map Competition, Wisconsin Land Information Association
- 12/2016 Winning Team in Infectious Disease Mapping Challenge, U.S. Department of State
- 11/2016 ESRI 2017 Geodesign Summit Student Scholarship, ESRI
- 05/2016 1/4 Outstanding Graduation Project Presentation, UW-Madison
- 06/2014 1/3 Valedictorian in the Graduation Ceremony of School of Geography, SCNU
- 05/2014 School-Level Outstanding Graduation Dissertation, SCNU
- 12/2012 Outstanding Student Leader Second-Class Scholarship in School of Geography, SCNU
- 12/2012 Third Prize in Future City at Sea Design Competition, SCNU
- 11/2012 Third Prize in "Leica Cup" Skills Competition (Urban Planning) in School of Geography, SCNU
- 12/2011 Recreation Activist Third-Class Scholarship in School of Geography, SCNU
- 10/2010 Second Prize in "My Dream My Country" Speech Competition in School of Geography, SCNU

### **RESEARCH PROJECTS**

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#### 05/2017-08/2017 **Interactive Web Mapping for Pollinator Habitat Suitability Evaluation, Madison, Wisconsin**

- ☞ **Abstract:** There is a current demand for the City to geographically visualize its previous efforts and to explore potential environmental/ social disparities in the field of pollinator habitat protection. A user interface enabling GIS layer visualization and interaction was therefore brought up as a solution. The core purpose of this project is to design then implement such kind of interface on the basis of ArcGIS Online for the City.
- ☞ **Duties:** Author of the project; monthly reports to Madison Food Policy Council and other departments; documentation on GIS layer processing; use of Model Builders for quality assurance; lo-fi wireframes and workflow design; implementation of user interface to be used by city staffs, urban beekeepers, and public.

#### 12/2015-04/2016 **Suitability Evaluation and Neighborhood Design for Pollinator Habitat, Madison, Wisconsin**

- ☞ **Abstract:** This individual research project is a 25-page-long paper aiming at creating a more pollinator-friendly environment and a healthier local food system for the City. For implementing the goals, the project constructed a GIS-based suitability evaluation model to analyze the city's regional potential and environmental suitability to develop pollinator habitats. Based on the evaluation results, specific policy strategies combined with urban design graphics were provided as suggestions/recommendations for the local planning.
- ☞ **Duties:** Author of the project; suitability modeling literature review; interviews with city planners and with university entomology specialists; LiDAR point cloud data process for extracting vegetation cover; GIS weighting and rating system construction; "problematic" sites identification and analyses; urban space design.
- ☞ **Was awarded 1/4 Outstanding Graduation Project Presentation, UW-Madison**

#### 09/2015-12/2015 **North Fish Hatchery Neighborhood Center Planning, Fitchburg, Wisconsin**

- ☞ **Abstract:** This planning project explores existing conditions, opportunities, and challenges in the North Fish Hatchery Road area, as they relate to the concept of potential development of a neighborhood center in the area. It addresses past studies, public participation, demographics, transportation/mobility, and land use.

- ☞ **Duties:** Group GIS analysis lead; mapped potential demographic issues for the region (e.g. segregations by income, race, and age group); collected, categorized, projected, and distributed GIS data for the entire group.

#### 03/2011-12/2013 **Influencing Mechanism of Aquatic Ecosystem on Eco-development of “Sea Gull” Island, Guangzhou**

- ☞ **Abstract:** This research project aims to evaluate the land use developments and to propose potential solutions to local environmental issues for “Sea Gull” Island, which is currently the only alluvial island to be developed in Southern Guangzhou, China.
- ☞ **Duties:** Core GIS analyst; on-the-spot investigation; digitized current land use patterns using ArcGIS; calculated and analyzed statistics; analyzed advantages and disadvantages of regional industrial development and causes of water pollution; completed a land use planning map; wrote a paper *“Planning of Sea Gull Island”*.
- ☞ **Was awarded third prize in “Challenge Cup” University Students Research Contest, SCNU**

#### 03/2012-12/2012 **Analysis of Job Opportunities of GIS Major Students in China (taking Guangzhou as an example)**

- ☞ **Abstract:** This research project aims to analyze GIS majors and job opportunities in Guangzhou in order to provide practical suggestions about GIS study and employment to new GIS major graduates.
- ☞ **Duties:** Group lead; planned the research; interviewed with professors, recruiters and students; collected and analyzed statistics; created maps and wrote a paper.
- ☞ **Was awarded “Outstanding Project of SCNU”**

### **EXPERTISES & SKILLS**

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- ☞ **Coursework:** Human/Physical Geography, GIS, Cartography, Remote Sensing, Geocomputing, Geovisualization
- ☞ **GIS & Cartography:** ArcGIS 10.X, ArcGIS Pro, Web AppBuilder, ESRI Story Map, QGIS, ENVI 4.8, kepler.gl
- ☞ **Design & Visualization:** Illustrator, InDesign, Photoshop, Blender, Sketchup, Lumion
- ☞ **Programming:** Python, HTML/CSS, JavaScript/jQuery, R, SQL, LaTeX
- ☞ **Miscellaneous:** Microsoft Office (Word, Excel, PowerPoint, Visio, Access), Google Earth, GPS locator