# Jiao Ma

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## PROJECTIVE

Web design and development summer internship

## EDUCATION

College of Science, George Mason University — Expected graduation Dec 2016
Department of Geography and GeoInformation Science
Master in Geographic and Cartographic Sciences

College of Forestry, Beijing Forestry University (BJFU) — Graduation Jul 2013
Bachelor of Science in Geographic Information System

## SKILLS

- Programming: Python, JavaScript, HTML/CSS, XML
- Database: PostgreSQL, Microsoft SQL, Oracle
- Operation system: Windows, Linux
- GIS software: ArcGIS desktop platform, ArcGIS online, QGIS, GeoServer
- Remote sensing software: ENVI, ERDAS IMAGINE
- Cartography: Adobe Illustrator, Adobe Photoshop, CartoDB
- Microsoft Office software (Excel, PowerPoint, Word)
- Native Fluency in Mandarin Chinese

## PROJECT

Starbucks Locator in the U.S. —— a web mapping application — Nov – Dec 2015

jma10.com/Starbucks-Locator/overview.htm

- Built an interactive web mapping application using open source Starbucks data
- Manipulated, organized and stored open source data in PostgreSQL Database client
- Set up a Ubuntu server and published geospatial data through GeoServer
- Built a query bar, which could search service, products, or spatial location, to allow user interactive with data
- Implemented functionalities such as change base map layer, visible or invisible Starbucks display, query information about Starbucks
- Coded with Leaflet, jQuery, CSS, Bootstrap, Mapbox and Google Maps API to design the web application

Mini GIS application compiled with Python — Nov – Dec 2015

Project slides could be download at jma10.com/images/GGS 650 Project.pdf

- Found intersection points and intersection segments of United States Highways and major rivers
- Achieved seven functionalities: Zoom In, Zoom Out, Pan, Check Intersection, Check Intersecting Segments and Quit
- Used Tkinter to visualize user interface
- Extracted polyline data from U.S. Highways Shapefile and U.S. Major River Shapefile and saved into polyline objects
- Wrote a function for checking intersection, saved intersecting points into point objects, and saved intersecting segments into segment objects

Social Media as a Distributed Sensor System: a Case Study at 2015 Spring Festival in New York
Apr – May 2015

- Examined the number of tweets changing through the festival period, the relationship between Twitter involved and socioeconomic variables, for example, Asian population and Asian restaurants and

sentiment analysis
- Collected Tweets through Twitter API in NYC region during Chinese New Year, Asian population of NYC and Chinese restaurants at the census tract level
- Used keywords related to Chinese New Year like “Spring Festival”, “Chinese new year”, “dumplings” to filter tweets and stored the result into PostgreSQL
- Visualized geotagged tweets in CartoDB, and created a heat map
- Created a tagged cloud in Gephi to identify keywords people concern about during Spring Festival.

GMU Connected: Linking the University to Itself and Its Spatiality Apr – May 2015

- Created linked data Terse Resource Description Framework (RDF) Triple Language (TTL) for students and professors in GGS department
- Used vocabularies from Academic Institution Internal Structure Ontology(AIISO), FOAF Vocabulary Specification and Teaching Core Vocabulary Specification
- Obtained all information towards students, professors, GGS courses and GGS department from website and reconnected
- Linked OpenStreetMap to the George Mason campus profile to identify a particular building on the map

An information management system for a parcel service company Jun – Jul 2012

- Established a parcel service company’s management information system in Beijing area
- Built a database based on Microsoft SQL 2000 to store and query product storage, staff information, customer information and delivery vehicles
- Published web application based on Microsoft SQL Server 2000 platform
- Designed user interface using HTML and .asp

Pre-warning system of forestry lightning fire Nov – Dec 2012

- Applied GIS knowledge and techniques to design a fire pre-warning system
- Implemented data analysis of lighting fire condition and created a database system
- Wrote user requirement documents and database design documents

Digital campus of Beijing Forestry University Jun – Aug 2010

- Applied Google Earth as base map for creating three-dimensional model
- Used Google SketchUp to build 3D model of buildings in Beijing Forestry University campus
- Took photos of each building’s external and manipulated in Photoshop for 3D model texture

## ADDITIONAL EXPERIENCE

2011 National University GIS Skills Competition
- Goal: applied GIS methods and technology in solving practical problems such as check influenced area by railway expansion and evaluation the expense of relocation
- Responsible for image rectification, digitizing, spatial analysis with the aid of MapGIS, writing an analysis report
- Won the 3rd prize in spatial analysis of operating skills group and awarded with the certificate of MapGIS cartographic Engineer

## VOLUNTEER EXPERIENCE

GMU OpenStreetMap Mapathon Volunteer Spring 2015
Contributed to digitize buildings and roads in Indonesia area in Southeast Asia

## ACCOMPLISHMENTS

- Awards: 2012 Academic Merit Award and 2010 Outstanding Student Scholarship
- Honors: Excellent performance in academic and physical educations (2010-2011, 2011-2012), commissary in charge of organization in GIS 09 Class (2009 - 2013) and 2010 Excellent organization Work