Guiye Li

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EDUCATION

University of Colorado Boulder	**Boulder, CO, U.S.**
PhD student in Geography	08/2021-Present
Texas Tech University	**Lubbock, TX, U.S.**
PhD student in Geosciences	08/2020-06/2021
Hubei University	**Wuhan, China**
Bachelor of Science in Geographic Information Science (GIS)	09/2016-06/2020

RESEARCH EXPERIENCE

Medical Accessibility Analysis based on Texas HCUP Data	**Lubbock, U.S.**
Advisor: Guofeng Cao, Assistant Professor	08/2020-Present

- ✧ Mining the influences of Hurricanes on Medical Accessibility of people in different wind swaths.
- ✧ Quantify the changes in Medical Accessibility across conditions (e.g., Gender and Race) through different parameters such as Travel distance to Hospital.
- ✧ Cluster new Hospital Referral Regions(HRRs) based on the Medical Accessibility.

An Integrated Platform for Poem Learning: *Map of Poetry*	**Wuhan, China**

(Users can learn poems anytime and anywhere with their phone or computer through this application)

Supervisor: Zhongyuan Li, Lecturer	04/2018-11/2018

Team Leader

- ✧ ***Has applied for software copyright***
- ✧ Developed the software based on JavaScript (Node.js is an open-source cross-platform JavaScript run-time environment that executes JavaScript code outside a browser, able to reduce system resource consumption with better load capacity)
- ✧ Conducted data processing with ArcGIS Pro and Python script, configured PostgreSQL database for poem data and user data storage, conducted poem data training with TensorFlow to establish a poem creation model
- ✧ Consolidated the core part of realized system functions on the server, and enabled data interaction of user browser with database through WEB server
- ✧ Used front-end calls of ArcGIS API for JavaScript and Baidu API for speech synthesis, and conducted system enhancement with bootstrap and asynchronous refresh with Ajax

Results & Highlights: Node.js; poem learning and WebGIS integration; web crawler and database building; machine learning and intelligent poem creation; speech synthesis.

True-color Night Vision Monitor System based on Deep Learning	**Wuhan, China**
Supervisor: Fan Zhang, Lecturer	11/2018-03/2019

Team Leader

- ✧ Sorted out and analyzed the current status of researches on image colorization, image quality improvement, super-resolution reconstruction, etc., and summed up their advantages and disadvantages respectively
- ✧ Determined the technical roadmap of the team based on existing results, and selected GANs for its realization
- ✧ Collected sample data of the monitor, and processed the data according to the experimental requirements
- ✧ Led the team in model modification, optimization and training to address bottleneck problems arising from the research

Results: The night vision of monitors is evidently improved from the perspective of image colorization and with the method of machine learning, and it is expected to open up a new market.

Resettlement for Poverty Alleviation in Yunxi County
Shiyan, China

Supervisor: Wensheng Deng, Professor — 10/2017-05/2018

Research Assistant & Cartographer

- ✧ Processed the data of the available boundary points with ArcGIS to determine the surveyed area, added resettlement points, land types and contour in CASS, and saved them as the base map of the survey and demarcation map
- ✧ Converted the resettlement points into land parcels, indicated the coordinates, and marked each type of land with a particular symbol and color
- ✧ Exported the table of boundary point coordinates, added the legend, titles and survey data sheet
- ✧ Drew the survey and demarcation map, and completed the survey and demarcation report based on the map

Vehicle-Borne Laser Radar Point Cloud Data Processing
Wuhan, China

Supervisor: Fan Zhang, Lecturer — 07/2018-08/2018

Research Assistant & Data Processor

- ✧ Checked the correctness of issued data, extracted categories and naming standard, deleted the point cloud data of road vehicles, and extracted upward and downward lane lines according to the point cloud reflection intensity
- ✧ Extracted the guard bar, guideboard (rod included), surface mark and road surface, and selected feature points of each category at the given positions from multiple perspectives
- ✧ Conducted self-inspection and mutual inspection, checked the extracted categories and naming standard to avoid any omission or error, and packaged them up for submission

Boundary Lines Demarcation of Futou Lake in Xian'an District
Xianning, China

Supervisor: Zhongyuan Li, Lecturer — 10/2018-12/2018

Equipment Debugger &Accuracy Assessor

- ✧ Confirmed the construction progress of the engineering unit on site, and checked the number of as-built boundary points
- ✧ Took the provincial geodetic surveying control point as reference, determined the geodetic coordinate of total station, and checked the accuracy of RTK device
- ✧ Conducted accuracy assessment on the elevation of boundary points with total station and RTK device respectively

PRACTICAL EXPERIENCE

GIS Software Development Training Program, Wuhan Zondy Cyber Group Co., Ltd. & Wuhan New Zondy Education Technology Co., Ltd.
Wuhan, China

Team Leader — 27/05/2019-21/06/2019

- ✧ Received the practical training on MapGIS operation, front-end development and WebGIS development basics
- ✧ Participated in the software development training program, and played the role as the leader of my team
- ✧ Spent just four days on leading my team to have completed the project of *Optical Valley Intelligent Transportation System* based on OpenLayers and MapGIS IGServer API, and used bootstrap for system enhancement

Geological Surveying (A Comprehensive Field Practice at Lushan Mountain)
Jiujiang, China

Intern — 09/09/2018-09/14/2018

- ✧ Conducted on-the-spot investigation to natural and cultural landscape of Lushan Mountain, analyzed the geological and geomorphic features, and figured out the cause and process of formation based on the learned knowledge
- ✧ Learned about the performance characteristics of different surface features on remote-sensing images, and understood the effects of geographic and geomorphic conditions on remote-sensing identification of surface features
- ✧ Mastered the skills of making 3D dynamic live map with 3S techniques, 3DMAX (or Sketchup), etc.

AWARDS & HONORS

- ✧ Distinguished Graduate Student Fellowship, *Texas Tech University* — 08/2020
- ✧ Top 10 Students, *Hubei University* — 05/2020
- ✧ Scientific Research Scholarship, *Hubei University* — 2019&2018

◇ Third Prize in 2018 "Qingshan Cup" Innovation and Entrepreneurship Competition, *Qingshan District Recruitment Agency, Communist Youth League Committee of Qingshan District, Qingshan District Science and Technology Bureau, Institute of Innovation and Entrepreneurship Wuhan University of Science and Technology*   12/2018

◇ Third Prize in Software Development Group, *National Geological Archives & China Mining News*   12/2018

◇ Top 10 College Students, *CPC Committee of School of Resources and Environmental Science, Hubei University*   12/2018

◇ Advanced Individual in Practice and Innovation, *CPC Committee of School of Resources and Environmental Science, Hubei University*   12/2018

◇ Second-class Scholarship for Outstanding Student, *Hubei University*   2019&2018&2017

◇ Second-class Scholarship for Academic Excellence, *Hubei University*   2019&2018&2017

◇ Winning Prize in Remote Sensing Application Group, *CSGPC & Esri China Information Technology Co. Ltd.*   11/2018

◇ Winning Prize in GIS Application Development Group, *CSGPC & Esri China Information Technology Co. Ltd.*   11/2018

◇ Outstanding Student Leader, *CPC Committee of School of Resources and Environmental Science, Hubei University*   12/2017