Zhen Liu

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EDUCATION

Clark University, Worcester, Massachusetts	07/2021 (expected)

- Master of Science (M.S.) in GIS (Geographical Information Science)

Wuhan University, China	07/2019

- Bachelor of Engineering (B.E.) in Geodesy and Geomatics Engineering

SKILLS

- Programming: MATLAB, C#, Python, JavaScript
- GIS: ArcGIS, ArcEngine, AutoCAD
- WebMapping: Leaflet
- Raster Analysis: ENVI, ERDAS IMAGINE, TerrSet
- Database: SQL Server

EXPERIENCE

Research Assistant

Clark Labs	11/2019-

- Develop the open-source version of the website "Coastal Habitats and Conversion to Pond Aquaculture".
- Process landcover data and visualize data through the bar chart and the pie chart.

Project Manager

Intelligent librarian searching and arranging system based on GIS and RFID	3/2017-6/2019

- Oversaw project design and lead software development using ArcEngine and SQL.
- Designed functions to find the shortest distance using Dijkstra and Greedy algorithms.
- Awarded funding from the 2017 National Students' Platform for Innovation and Entrepreneurship Training Program.

Summer intern

Shanghai Surveying and Mapping Institute, Shanghai, China	7-8/2018

- Preprocessed images for land monitoring (feature detection, feature matching, and cloud screening).
- Surveyed and scanned the metro station in Shanghai city, using total stations and 3D scanner.
- Processed 3D point cloud for Shanghai Metro Line 10 using 3DReshaper

Project Manager

3D model of cylinder object reconstruction from photograph	12/2018-8/2019

- For cylindrical objects, innovatively proposed the use of feature extraction to compensate for the uneven distribution of generated point clouds.
- Detected features of objects using ellipse fitting and plane fitting algorithms.
- Rendered models in the method of 2D+3D.

PUBLICATIONS & PATENTS

- Liu Z. & Yang S.F., A rewinding device for RFID antenna
- Liu Z., Intelligent librarian searching and arranging system based on GIS and RFID

FIELD STUDY

Traverse survey and GPS (course: digital surveying and mapping)	2017
Remote sensing image processing and 3D modeling (course: Digital photogrammetry)	2018
3D data collection and imaging restoration (course: new techniques in digital photogrammetry)	2018

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RECOGNITION

Departmental app development contest, 3rd prize	2017
Scholarship from Hi-Target Surveying Instrument Co., Ltd	2015-16
Academic Scholarship of Wuhan University, 1st class	2016-2017