Zhen Liu

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EDUCATION

University of Maryland, College Park, MD   Expected, 06/2027
- PhD in Geographic Information Science and Cartography

Clark University, Worcester, MA   06/2021
- Master of Science (M.S.) in GIS (Geographical Information Science)

Wuhan University, Wuhan, China   06/2019
- Bachelor of Engineering (B.E.) in Geodesy and Geomatics Engineering

SKILLS

- Programming: Python, JavaScript, C#, R, Java
- GIS: ArcGIS, ArcGIS Pro, QGIS
- Raster Analysis: Focus,ENVI, ERDAS IMAGINE, TerrSet, Google Earth Engine
- Web Mapping: Leaflet
- Database: SQL Server, PostgreSQL

EXPERIENCE

Research Assistant
Clark Labs, Clark University, Worcester, MA   11/2019-7/2022
- Implemented Fully Convolutional Networks to detect Mangrove in the coastal area.
- Filtered Landsat 8 images on AWS and design a database for automatic classification.
- Developed open-source version of the website "Coastal Habitats and Conversion to Pond Aquaculture".
- Processed result data and visualize data through bar charts and pie charts.

Summer Research Fellow
Cloud to Street, New York, NY (Remote Work)   5-8/2020
- First introduced Total Operating Characteristic to accuracy assessment for the company.
- Standardized and documented the method in code (Java and Python).

PUBLICATIONS & PATENTS

- Liu, Z., & Pontius Jr, R. G. (2021). The Total Operating Characteristic from Stratified Random Sampling with an Application to Flood Mapping. *Remote Sensing*, *13*(19), 3922.

Field Study

- Spatial analysis (Course: Advanced Vector, Advanced Raster and Advanced Remote Sensing)

- Programming (Course: Web Mapping & Open Source GIS, Python Programming, Geospatial Analysis with R, Applied Machine Learing)
- Data Analysis (Course: Intermediate Quantitative Methods in Geography, Data Analysis with Python)

RECOGNITION

- Second place in 2021 AAG-GISSG Student Honors Paper Competition 2021
- Graduate Student Travel Award of Clark University 2020
- The Edna Bailey Sussman Fund 2020
- Academic Scholarship of Wuhan University, 1st class 2016-2017
- Scholarship from Hi-Target Surveying Instrument Co., Ltd 2015-2016