YAO-TING YAO

E-mail: leannayao@gmail.com | LinkedIn: https://www.linkedin.com/in/lenayao/
Portfolio: https://yaotingyao.github.io/

Geo-spatial analyst/engineer with seven years of professional and academic experience. My vision is to design geo-analytical tools for users to explore alternative solutions.

SKILLS

- **Programming:** Python (ArcPy, Pandas, NumPy, Matplotlib, OS, PyTorch, scikit-learn), SQL, R, JavaScript, HTML5/CSS, C# (Beginner)
- **Software:** ESRI products (ArcGIS Pro, ArcMap, ArcGIS Online, ArcGIS StoryMaps, ArcGIS API for JavaScript), QGIS, PostgreSQL/PostGIS databases, Google Earth Engine, GitHub, TerrSet, Leaflet, Mapbox, OpenStreetMap
- **Technical:** Data science coding, automation, web mapping, spatial analysis, cartography, image classification (supervised and unsupervised classification), machine learning (random forest, U-Net)

EXPERIENCE

GIS Programmer | Clark Labs | Jan 2022–Present

- Develop Verra's Jurisdictional and Nested REDD+ (JNR) Risk Mapping Tool using GDAL and NumPy with TerraCarbon LLC
- Write Python scripts to speed up and reduce maintenance of automated classification procedures
- Contribute to Coastal Habitat Mapping project with Gordon and Betty Moore Foundation. Create land use map with mangroves, wetlands, and aquaculture by using machine learning algorithms (MLP and Mahalanobis) with supervised classifications

Student Assistant at 2022 User Conference | ESRI | July 2022

- Collaborated with ESRI staff to register attendees; interacted with conference attendees to ensure they had access to resources and information needed to have a successful conference experience

Land Administrator | Keelung City Government and Taipei City Government | Dec 2015–June 2018

- Appropriated public land use planning; communicated with government bureaus to assess their interests and budget under land use regulations
- Interoperated satellite and aerial images to examine illegal land use, such as illegal gravel mining

Project Lead | Taiwan Assoc. of Comprehensive Arts Development | Sept 2010–June 2015

- Led music counseling for social minority groups that included domestic violence support, mental illness recovery, and migrant workers in Taiwan and China

PROJECT EXPERIENCE

Cropland Maps on Planet-Scope Imagery Using U-Net at National Scale in Zambia (Master Thesis), May 2022–Present

- Create Google Earth Engine base labeling platform and workflow protocol
- Use Google Earth Engine API and Python to write automated imagery downloader, resample, and missed file checker
- Use PyTorch and scikit-learn library to train, validate, and predict

Mapping Conflict and Social Media in the Russia-Ukraine Conflict, December 2022

- Scraped Twitter data with a list of hashtags in English and Ukrainian using Python snscrape library
- Visualized the relationship between the Ukraine conflict and social media activity using the Mapbox GL JS JavaScript library to design an interactive web map, including a time slider, mouse hover, and temporal chart

FEMA Emergency Management Data Migration in PostgreSQL, May 2022

- Mined FEMA National Risk Index, Community Emergency Response Team, and Emergency Management Performance Grants data sets and designed emergency management schema in pgAdmin
- Explored if Emergency Response Team and funding are well allocated against high-risk hazards at state level

EDUCATION

M.S. | Clark University | Geographic Information Science| May 2023 | **GPA: 3.97**
M.S. | National Taiwan University | Geography with Urban Geography | June 2010 | **GPA: 4.0**
B.S. | National Taiwan University | Geography |June 2006| **GPA: 3.7**

RECOGNITION

International Development, Community, and Environment Scholarship | Clark University | $19,992

President's Award of College of Science | National Taiwan University | Award is given to top 5% of students