

KUANG-CHENG, CHENG

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WORK EXPERIENCE

- Apr. 2024-
Now** **GIS Analyst**
Houston Public Works *Houston, TX*
- Develop a data quality improvement plan to fix the existing data issues.
 - Create Python script for geoprocessing in order to speed up the processing time and reduce human error.
 - Create, maintain, update geospatial data for telecommunication data on ArcGIS enterprise database.
 - Ensure data quality of telecommunication data.
 - Design and create maps for Infrastructure Design Manual (IDM) using ArcGIS Pro.
 - Improve current workflow for tabular data ETL.
 - Coordinate the GIS projects for different engineering groups so they have a sufficient amount of support.
- Sep. 2023-
Apr. 2024** **GIS Volunteer**
URISA's GISCorps *Des Plaines, IL*
- Test and help with the development of the user interface (UI) of Underpass, a ReactJS library, for the Humanitarian OpenStreetMap Team.
 - Collect street-level images in support of the creation of smart map data for Mapilio, a map platform.
 - Edit buildings on satellite photos for Humanitarian OpenStreetMap Team projects.
- Jan. 2022-
Aug. 2022** **GIS Metadata Technician**
University of Wisconsin-Madison *Madison, WI*
- Assessed LiDAR data inventory statuses.
 - Created original ISO metadata for nearly 400 new Wisconsin county datasets.
 - Added interactive tile indexes for Wisconsin LiDAR-derivative data resources.
 - Edited Wisconsin V8 county parcel data.
- Aug. 2019-
Jul. 2021** **Assistant Engineer**
Ministry of Transportation and Communication *Taipei, Taiwan*
- Processed COVID-19 mask demand data and visualized the demand trends.
 - Coordinated the mask distribution project for COVID-19 to ensure all companies have sufficient quantities of masks to work safely.
 - Updated, maintained, and delivered routine mobilization data.
 - Evaluated mobilization task guidelines for air, shipping, and road transportation.
 - Arranged the annual training program for senior officers and project leaders.
- Nov. 2016-
Jul. 2021** **Junior Engineer**
Freeway Bureau *New Taipei, Taiwan*
- Review and revise environmental impact assessment reports, ensuring they are aligned with policies and regulations.
 - Digitized Taiwan's freeway historical documents for historical data preservation.
 - Held environmental education events, evoking awareness of environmental issues.
 - Examined design drafts and contracts of national bridges.
- Jul. 2014-
Aug. 2014** **Engineer Intern**
CECI Engineering Consultants, Inc. *Taipei, Taiwan*
- Gained experience at the most prominent civil engineering design company in Taiwan.
- Visualized civil engineering project drafts and data on Google Earth.
 - Completed sectional drawings of roads on the mountain area of Tai-20 (one of Taiwan's provincial highways) using AutoCAD.

EDUCATION

- Sep. 2021-
May. 2023 **University of Wisconsin-Madison, Madison**
M.S. in Geographic Information Systems and Cartography
- GPA: 3.83
- Sep. 2011-
Jun. 2015 **National Central University, Taoyuan, Taiwan**
B.S. in Civil Engineering
- EAC accredited program.
 - GPA: 3.34.
 - Relevant coursework:
 - (1) Programming for Engineering (C++) using Visual Studio.
 - (2) Numerical Analysis: MATLAB Program design.
 - (3) Engineering Statistics.

SKILLS

Languages: Mandarin Chinese (native), English (fluent).

Computer Software: AutoCAD, SketchUp, ArcGIS Pro, QGIS, MS Power BI, Adobe Illustrator, MS Office (including Word, Excel, PowerPoint)

Programming: Python, SQL, HTML/CSS/ JavaScript, GitHub

Cloud Computing Environment: Google Cloud Platforms, ArcGIS Online (AGOL)

Database System: PostgreSQL (with PostGIS), MongoDB, Snowflake

Other: Multi-tasking, Time Management, Problem-solving, Project Coordination, Supervisory Skills, Data Management, Communication

PROJECTS

- **Spatial Big Data Analysis & Visualization:**
“Madison Metro Transit Redesign Evaluation” - Perform data ETL, statistical data analysis and visualize spatial data on an interactive map using Python in Jupyter notebook.
- **Spatial Database Design and Management:**
“US National Parks Recreational Database” - Create database to integrate visitation records, facilities, and spatial data inside or nearby national parks using PostgreSQL (with PostGIS extension).
- **GIS Analysis:**
“Road salt use impact on major sensitive areas in the metropolitan area of Marathon County”-Perform spatial analysis and map the potential contamination strength on each road for marathon county transportation planner.
- **Geovisualization and UI/UX Design:**
“United States Exports By Industry” - Create a web-based user interface to visualize the data collected from the Observatory of Economic Complexity (OEC) using JavaScript/HTML/CSS with Leaflet library.
- **GIS Development Practicum:**
“Yearly ridership data analysis and visualization” - create a workflow for data ETL, open data publishing, and spatial data management and visualizations.
- **Cartography (Mapping) Design:**
“Taiwan Public Transportation Infrastructure – bus ridership vs. population”-Aggregate data from multiple open data resources and visualize data on a map using ArcGIS Pro and Adobe Illustrator.

CERTIFICATION

- 2016 **Professional and Technical Personnel Examinations of Civil Engineers, Taiwan**
- Certificate issued by Ministry of Examination, R.O.C. (Taiwan).
 - Officially qualified to be a Professional Civil Engineer (PE) in Taiwan.
 - Qualification Rate (2016): 11.53%.
- 2016 **Civil Service Level Three Senior Examination in Civil Engineering, Taiwan**
- Certificate issued by Ministry of Examination, R.O.C. (Taiwan).
 - Passed the public servant exam as a Junior Engineer.
 - Qualification Rate (2016): 25.78%.