SISUN CHENG

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EDUCATION

UNIVERSITY OF PENNSYLVANIA 08/2021-05/2022
Stuart Weitzman School of Design Philadelphia, PA
Master of Urban Spatial Analytics Major GPA: 3.8/4.0
Related Courses: *Spatial Statistics*, *Geospatial Data Science*, *Geospatial Cloud Computing, JavaScript Programming*

SUN YAT-SEN UNIVERSITY 08/2017-06/2021
School of Geography and Planning Guangzhou, China
Bachelor of Science in Geographic Information Science Major GPA: 3.8/4.0
Related Courses: *Probability and Statistics*, *Multi-Statistical Analysis*, *C++ Programming*, *Data Structure*, *Database*

PROFESSIONAL EXPERIENCE

Cushman & Wakefield, Inc. | *Intern* 12/2020-03/2021
Consulting Department Guangzhou, China

- Focused on data collecting, processing, and analyzing work using Excel and Python.
- Participated in competitive-cooperative and industry research of high-tech districts and related report writing.

Project: Competitive-cooperative Research of High-tech districts in Guangdong-Hong Kong-Macao Greater Bay Area

- Investigated 5 high-tech districts in 4 cities with total area of over 550 square kilometers and conducted in-depth research on local industry development.
- Applied Excel and Python to process multi-source governmental and commercial data.
- Analyzed the competitive-cooperative relationship of the study regions, made multiple graphs and diagrams to illustrate the analysis results, and worked on reports and presentations.

Shenyang Geotechnical Investigation & Surveying Research Institute Co., Ltd. | *Intern* 04/2020-08/2020
Department of Spatial Information Shenyang, China

- Conducted geospatial data processing and analyzing work using ArcGIS and Python.
- Summarized the analysis result and illustrated the findings or suggestions through graphs and tables in the report.

Project: The Forest Harvesting Quota in Shenyang during the "Fourteenth Five-Year"

- Applied Excel and Python to summarize a large amount of data about forest resources.
- Wrote data processing code to handle diverse data format from the forest department of different regions, imported the processed data into the quota measurement software of the State Forestry Bureau to get the result.

Project: "One Map" Yearly Updates of Forest Examination and Resource Management in Shenyang

- Applied ArcGIS to process the large-scale remote sensing images of Shenyang, determined the necessity to conduct separation of terrain patches and other calculations according to the shapefile from the forestry database.
- Assisted in writing the achievement report and statistical result report work.

ACADEMIC PROJECT

On-street Parking Demand Forecast and Dynamic Pricing in San Francisco 12/2021

- Analyzed on-street parking in San Francisco, considered different factors including built environment, neighborhood, and road characteristics, and focused on demand-based dynamic pricing strategy.
- Built a parking demand prediction model, applied feature engineering for satisfying spatio-temporal accuracy.
- Wrote a report for SFMTA, broke down technical details to more comprehensible text.

Web-Based Dashboard of Neighborhood Livability Evaluation in Chicago 12/2021

- Evaluated the safety and convenience of each neighborhood based on crime data and local amenities.
- Built data pipeline that extracts data from various 3rd-party sources, loads the data into google cloud storage, transforms the data into appropriate form with google big query.
- Rendered web-based reports with maps and charts using Python scripts and achieve periodic data pipeline and report rendering through Airflow on virtual machine.

National Parks Guide for Travelers 12/2021

- Applied sentiment analysis on Twitter comments and carried out ranking of national parks according to the result.
- Carried out cluster analysis on the parks based on park characteristics and made analysis on the surroundings.
- Gathered the air ticket price of the national parks from PHL and visualize it with interactive map and charts.

Height Inversion and 3D Mapping of Buildings in San Francisco Bay Area 07/2020

- Analyzed the raster data through Google Earth Engine and conducted data processing on cloud platform.
- Applied Python to achieve the random Forest Regression and repeatedly trained the model to reduce error.
- Used Random Forest Model to conduct inversion of large-scale area data and get the height inversion result and displayed the result in 3D through ArcMap and ArcScene.

SKILLS & PUBLICATION

Technical Skills: Python, SQL, R, ArcGIS, Excel, C, C++
Languages: Mandarin (native), English (proficient)
Publication: Measurement of Potential Victims of Burglary at the Mesoscale: Comparison of Census, Phone Users, and Social Media Data, *International Journal of Geo-Information* 04/2021