GUANGYUE CAO

- +1 (917) 940-4666
- caoyue1021@gmail.com
- https://www.linkedin.com/in/guangyuecao/

Urban Designer and **Data Analyst** with extensive project experience in analytics and urban design. Possessing interdisciplinary perspectives to identify, analyze, and solve problems, proficiency in using multiple platforms and visual programming skills to transform data into design solutions and strategy.

EDUCATION

M.S. in Analytics, Computational Data Analytics Track
Georgia institute of Technology, 2021

M.S. in Architecture and Urban Design
Columbia University in the City of New York, 2016

B.Eng. in Urban Planning
Southwest Jiaotong University, 2014

SKILLS

TECH STACK
SQL
Python
R
ArcGIS
QGIS
Tableau
Simulation

MACHINE LEARNING MODEL
Regression
Classification
Clustering
Random forest
PCA
Time Series

COMPUTATIONAL DESIGN
Rhinoceros
Revit
AutoCAD
Grasshopper
Dynamo
Autodesk Maya

VISUALIZATION
Photoshop
Illustrator
InDesign
After Effects
Premiere
Final Cut Pro

PROFESSIONAL EXPERIENCE

Perkins&Will
San Francisco, 2017-Present

Urban Designer

- Led or assisted concept plan designs for station area, TOD corridor and innovation districts. Addressing emerging transit, equity, sustainability issues. Multiple projects were awarded by WAN, ULI and APA.
- Performed exploratory site analysis over large scales of geospatial datasets (zoning, transit, POI, census, etc.) to identify development opportunities, risks and feasibility. (Using Python, ArcGIS, Grasshopper)
- Created and deployed a computational design pipeline from data gathering, data analysis to 3D modeling for TOD corridor study (Using Python, ArcGIS, Grasshopper).
- Applied machine learning models to define sites and predict real estate growth. The project helped the client to secure 1.7 million federal funding. Providing 40,000 new jobs and housing for 80,000 new residents in approximately 45 million sqft. (Using Python)
- Optimized the sustainability performance for architecture and urban projects in the simulation environment (solar, wind, energy) with factorial design and sensitivity analysis. (Using JMP, R)
- Established a metric system to assess the equitability of selected neighborhoods based on census, transportation, POI data.(Using Python, ArcGIS, Tableau). The report was awarded 2021 world changing ideas by Fast Company Magazine.
- Coordinated with cross-functional teams for project delivery.

NACTO (National Association of City Transportation Officials)
New York, 2016

Urban Design Intern

- Produced diagrams, illustrative models for the final publication of Global Street Design Guide

China Academy of Urban Planning & Design
Beijing, 2013

Assist. Urban Planner

- Conducted pilot studies and initial field survey; collected and analyzed preliminary topography and land use data; produced infographics and diagrams for strategy reports for national level projects.

ACADEMIC PROJECTS

Safe Streets for Cyclists, Georgia Tech

- Use Google Street View and historical bike collision data to predict the cycling safety score of streets in San Francisco with Computer Vision algorithms.
- Coordinate with teammates as team lead and conducted follow-up user survey.

Burdell's Ramblin' Wrecks, Georgia Tech

- Developed a vehicle trading application with role based access control (RABC) database and user interface that manages the trading event, inventory and financial reports.