

Xinge Zhang

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EDUCATION EXPERIENCE

MS, **Urban Spatial Analytics** (GPA: 3.7) *University of Pennsylvania, Philadelphia, PA* Aug2021- May 2023

BE, **Landscape Architecture** (GPA: 3.9) *Beijing Forestry University, Beijing, China*

(*Outstanding Graduate Award*)

Aug2017-May 2021

RESEARCH & WORK EXPERIENCE

Department Assistant, University of Pennsylvania

Aug 2022 - Present

- Performed exploratory data analysis on the practicum project, classified and visualized data using **R**.
- Run advertisement campaigns for the department's social media (Twitter, Instagram, Facebook).

Part-time Project Assistant, EYP Consulting

Dec 2022 - Present

- Assist in completing **healthcare consulting projects**, independently complete store research, 2 **brand case studies** to assist in the design of broad strategies and selection of target consumers
- Assist in conducting expert interviews, improve and translate the PowerPoint for client reporting
- Estimated the sales volume** of an OTC product in China for one year, and collected a lot of benchmark product names, prices, and offers.

Shanghai Key Laboratory of Urban Design and Urban Science (LOUD) 2022 Open Grants

Sep 2022

Propose the Sensing climate-responsive design

- Conduct the survey in the Low-carbon topic review and literature research
- Design and write up the research methods with Arduino sensor kits for water quality detection and flood warning

Research Assistant, University of Pennsylvania

Nov 2021 - Mar 2022

Exhibition design of Globescape art installation project in the "New-Eco Vision" exhibition in CAFA Beijing.

- Performed exploratory data analysis on the ecological project, classified and visualized geodata using **GIS**.
- Built laser cut test models to perform different exhibition effects and weekly report results to the manager.

National Entrepreneurship and Innovation Program, Beijing Forestry University

Jul 2019 - Dec 2020

Restoration Research on the Landscape Image of the Ancient Canal based on <Beijing Water Conservancy>

- Extracted text data from the file system
- Used the clustering method to find out the common characteristic of different *Landscape Images*.
- Found the correlation between each feature and the logic behind the people image score of the river using **Seaborn**

Summer Project: Energy and future city: Innovative Architecture, University College London

Aug 2019

- Research on grid connection design of lighting systems and future urban energy supply

SKILLS

Proficient in:

- Analysis & Modeling:** Statistical Modeling, Machine learning, Deep learning, A/B Testing
- Analysis Tools:** R, Python, SOL, ArcGIS, CARTO, HTML, CSS, **Tableau**, Microsoft Office
- Visualization:** Adobe Suite (Photoshop, Illustrator), Rhino, AutoCAD

PROJECT EXPERIENCE

Predictive Bikeshare with Temporal & Spatial Effect in New York City (Machine Learning, R, Python): [Link](#) Oct 2022

- Extracted 250, 000 hour-base trip data from Citi bike New York, and 3 weather factor datasets from Automated Surface Observing System.
- Built several **multilinear regression** and **cross-validation models** to forecast the bike usage times for each station and achieved 92% average accuracy using Python scikit-learn.
- Integrated **spatial clustering** and **time lag feature** to optimize the model performance and achieved accuracy improvement by 5% over the original business-as-usual approach.

Resident Behavior Prediction & Cost-Benefit Optimization (Machine Learning, R): [Link](#)

Nov 2022

- Analyzed consumer data in taking tax credits, and conduct **Feature Engineering** (combined options under predictors, or transfer numeric variables into categorical variables) to better distinguish between taking and not taking credits
- Applied **Logistic Regression** for machine learning, and performed Validations with baseline model to improve accuracy
- Constructed a business **Cost-Benefit Equation** and defined an **Optimal Threshold** for the business to maximize its profits

Parking Occupancy Rate Prediction in San Francisco:(Time Series, Machine Learning, Python, R): [Link](#) Dec2022

- Wrangle Ground Truth Data. Visualized existing delays for each line and station in Hour-by-Hour Temporal Granularity. Constructed Time Fixed and Lag Indicators, and applied Feature Engineering: Interaction, Logarithmic transformations, etc.
- Built a Segment Model System and apply OLS regressions respectively. Cross Validated models and examined Generalizability in different scales, and designed User Interface for the client

Test Analysis on Taobao Reviews (Python, NLP, Machine Learning)

Jul 2022 – Aug 2022

- Automated analysis of user experience reviews to determine each reviewer's satisfaction with the listing products. Cleaned 568, 545 review observations built a **term-doc incidence matrix** and created cloud word for analysis in Python. Conducted exploratory data analysis on the relationship between the review recommendation and helpfulness.
- Applied **N-Gram, and TF-IDF methods** to vectorize text input, and built predictive logistic and random forest models
- Compared models' performance and achieved 90.0% accuracy as measured by AUC with cross-validation and testing. Visualize the importance of each feature and give recommendations to improve the model.

CONFERENCE & WORKSHOP PRESENTATIONS

2022

- **Public Relation Operation: Urban China Collective 4th Annual Conference:** Innovation potential and open data in Chinese urban development, Apr 16, 2022, Philadelphia, PA, USA
- **Public Relation Connection:** Urban China Collective Career Talk, Feb 19, 2022, Philadelphia, PA, USA

2019

- **Research Exhibition:** Beijing International Design Week of Bai Temple, Oct 2019, Beijing, China
- **Head of Propaganda: UIA-CBA Construction Workshop SECOND PRIZE,** Beijing Forestry University x Chiba University, Jul 2019 – Aug 2019, Siyang, Suqian, China
- **Oral presentation:** The construction of high-technology and low-construction bamboo structures in traditional Chinese villages, Field Trip to Buried Hill Summer Workshop for College Students on Traditional Chinese Villages, Aug 2019, Qianshan, Zhejiang, China

2018

- **Oral presentation:** Go Zero waste Practice Group practice: Awarded the Third Prize at 4th Environmental Cup Green Dream Co-creation Plan, Jul 2018

AWARDS & GRANTS

2021/06	Beijing Outstanding Graduates by Beijing Education Commission
2021/05	Construction Award: SMACH art competition
2019/06	Funding National level Entrepreneurship and Innovation Program
2019/07	Second Prize at UIA-CBA Construction Workshop, Beijing Forestry University x Chiba University by International Union of Architects
2018/12	Third Prize at the Cultural and Innovation Competition by Beijing Forestry University.
2018/10	Outstanding Student Cadre by Beijing Forestry University
2018/10	Second-Prize Academic Scholarship by Beijing Forestry University
2018/07	Third Prize at 4th Environmental Cup Green Dream Co-creation Plan by China Everbright Bank
2018/06	Funding School-level Entrepreneurship and Innovation Program