

# YUHANG ZHANG

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## EDUCATION

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**Johns Hopkins University** • Baltimore, USA Aug 2019 – May 2021(Expected)  
*Master of Science in Engineering • Civil and Systems Engineering (GPA: 4.0/4.0)*  
*Core Courses: Network Modeling, Operations Research, Intro to statistics, Time Series Analysis, Machine Learning*

**Central South University** • Changsha, China Aug 2015 – Jun 2019  
*Bachelor of Engineering • Civil Engineering (GPA: 89.44/100 (top 5%))*

## RESEARCH INTERESTS

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- Transport and Epidemiological Modeling, Network Science and Optimization, Machine Learning

## SKILLS

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- Python, R, Matlab, Julia, Tableau, C++, ArcGIS, Sumo, L<sup>A</sup>T<sub>E</sub>X

## ACADEMIC EXPERIENCE

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**COVID-19 Personal Protective Equipment Analysis** Baltimore, USA Jun 2020 – Present  
*–Research Assistant, Advisor: Prof. Kimia Ghobadi*

- Analyzing time series of PPE distribution among different regions and entities in Massachusetts
- Making a Dashboard to compare PPE distribution and the number of confirmed cases using Tableau
- Understanding the decision policies around PPE distribution, the needs and supplies for entities over time

**JHU CSSE COVID-19 Dashboard** Baltimore, USA Feb 2020 – Present  
*–Volunteer*

- Collected and cleaned data from World Health Organization (WHO)
- Validated and compared data between WHO and CSSE

**Research and Preparation of High-Performance Pervious Concrete Based on Sponge City** Changsha, China Apr 2018 – Apr 2019  
*–Project Leader, Undergraduate Academic Research and Creative Experiment Program*

- Conducted literature review on pervious concrete
- Designed experiments to identify factors affecting the performance of pervious concrete
- Optimized water permeability and concrete strength

**Mechanical Topics – Linear Controlling Algorithm** Changsha, China May 2017 – Jun 2018  
*–Project Member*

- Constructed an improved linear controlling algorithm and conducted an error adjustment method
- Completed and presented a short report related to control algorithm of assembling bridge

## PROJECTS HIGHLIGHTS

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**Emergency Food Delivery** Baltimore, USA Spring 2020

- Implemented model using Julia based on Capacitated Vehicle Routing Problem
- Employed Miller–Tucker–Zemlin formulation to eliminate subtours
- Accomplished flying routes of selected drones under different circumstances via ArcGIS

**Beijing Metro System Network** Baltimore, USA Fall 2019

- Represented distributions of metro stations and lines using ArcGIS
- Analyzed significance of centrality of different stations using multiple measurements
- Executed in python to find the shortest path between any two stations based on Dijkstra's Algorithm

**Uncertainty Propagation in a Truss System** Baltimore, USA Fall 2019

- Used Standard Monte Carlo Method (SMCM) to generate samples of the displacements of a specific node
- Used Antithetic Variates Method and compared variance of samples with SMCM