

# JIAYI ZENG

E-mail: 12133004@mail.sustech.edu.cn

## EDUCATION

**Southern University of Science and Technology**  
*M.S. in Business Intelligence and Big Data Analysis*

*Shenzhen, China*  
*Sep. 2021 - Jun. 2023 (Expected)*

**Fudan University**  
*B.S. in Mathematics*

*Shanghai, China*  
*Sep. 2016 - Jun. 2020*

## RESEARCH PROJECTS

### **Decision Analytics with Rank Uncertainty**

(Joint work with Prof. Songhao Wang and Prof. Qiaochu He, submitted to *Operations Research* as Technical Note.)  
-In this article, we propose a robust optimization framework to deal with decision problems wherein uncertainty occurs in a rank aggregation process. A constraint generation based algorithm is designed for tractable computation. We also derive theoretical guarantees for the likelihood of the ground truth rank, which in turn helps to quantify the size of the uncertainty set.

### **Market Allocation and Bidder Coalition in Auctions with a Dual-Roled Principal**

(Joint work with Prof. Hanlin Liu and Prof. Qiaochu He, submitted to *Production and Operations Management*.)  
-In this article, we discuss a medical resource allocation problem and propose an integrated two-tiered mechanism under a cooperative game theory framework, consisting of a second-price auction and a secondary market game. We also discuss the strategies of a dual-roled and self-interested principal who is also a participant, and show that he has incentive to bid untruthfully in the auction.

### **Information Design for Games with Negative Externalities**

(Joint work with Prof. Zhuo Feng and Prof. Qiaochu He, work in progress.)  
-In this work, we consider a problem that a central planner disseminates information strategically using Bayesian persuasion when negative externalities exist. Examples of such settings include team productions, Cournot competitions, routing games, queueing games, etc.

## CONFERENCE PRESENTATIONS

**Market Allocation and Bidder Coalition in Auctions with a Dual-Roled Principal**  
2022 POMS International Conference in China

*Xi'an, China*  
*June 2022*

## HONORS AND AWARDS

SUSTech Postgraduate Scholarship

2021

## TEACHING EXPERIENCE

**Southern University of Science and Technology**  
*Teaching Assistant*

*Shenzhen, China*

-MIS301 Big Data Analysis and Applications  
-MIS306 Data Mining and Business Applications

*Spring 2022*  
*Fall 2022*

## WORK EXPERIENCE

**Huawei**  
*Java Back-end Developer Intern*

*Hangzhou, China*  
*Jul. 2019 - Sep. 2019*

## SKILLS

Programming languages: Python, Java, Matlab  
Tools: Sklearn, Gurobi, CPLEX

## REFERENCES

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Associate Professor Qiaochu He (Supervisor)  
SUSTech Business School, Southern University of Science and Technology, China  
E-mail: heqc@sustech.edu.cn

Assistant Professor Hanlin Liu (Co-author)  
SUSTech Business School, Southern University of Science and Technology, China  
E-mail: liuhl@sustech.edu.cn

Assistant Professor Songhao Wang (Co-author)  
SUSTech Business School, Southern University of Science and Technology, China  
E-mail: wangsh2021@sustech.edu.cn