

Yishan Shen

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EDUCATION

University of Pennsylvania

Master of Arts (Mathematics)

- Overall GPA: 3.95/4.0
- Courses: Machine Learning, Artificial Intelligence, Data-Driven Modeling, Stochastic Processes

Philadelphia, PA
08/2019-Expected 05/2021

Wuhan University (WHU)

Bachelor of Science (Mathematics), Mathematics Base Class

- Overall GPA: 92.23/100 (3.88/4.0) ; Major GPA: 93.20/100 (3.90/4.0) **Ranking: 1/46**
- Academic Scholarships & Honors:
 - Merit Student, Wuhan University (for three consecutive academic years)
 - Academic Scholarship, Wuhan University (for three consecutive academic years)

Wuhan, China
09/2015-06/2019

Columbia University

Summer Exchange Program(GPA: 4.0)

NY, USA
07/2017-08/2017

SKILLS

Programming and System Skills: Python; Java; Go; MySQL; MATLAB; C; R; Lingo; JavaScript; CSS; HTML

Other Frameworks: AWS; Google Cloud Platform; Git

PUBLICATION

Haibo Zhang, Yi Zhang, **Yishan Shen**, Evaluation on Development Level of Hubei Modern Service Industry, *Statistics & Decision* 11 2018.06 (IF=0.847)

- Established comprehensive evaluation indices on development level of Hubei modern service industry, involving 3 first-level indices and 16 second-level ones
- Conducted vertical analysis on the dynamic development via analytic hierarchy process; made cross-sectional analysis on the standing of Hubei modern service industry among the whole country by entropy method
- Concluded: the comprehensive score ranks 10th in China; the development level score rose remarkably to 25.47% from 0.3863% in the past 10 years; there is still significant gap between developed provinces and Hubei Province
- Put forward suggestions on improving the development level of Hubei modern service industry

PROFESSIONAL EXPERIENCE

Undergraduate Thesis: High Dimensional Copula-based Models

12/2018-06/2019

- **Awarded Outstanding Undergraduate Thesis**
- Built pair-copula hierarchical model according to Sklar's Theorem
- Used R to implement pair-copula hierarchical model on negative log-returns of three corporations
- Compared Copula-based hierarchical model with general copula model
- Tested the fitness of the model by unsupervised learning algorithm

Research: Optimization of Image Segmentation Problems based on Mumford-Shah-like Model

03/2018-06/2018

- Segment the foreground and background of images to make the segmentation more accurate and the algorithm faster
- Optimize the integrand of the existed model, find out the function expression and convert it to convex function to find the optimal solution
- Convert discontinuous function through total variation and figure out the minimum value by dual algorithm

Contest: Mathematical Contest in Modeling

02/2018

- Established a general mathematical model for the signal of multi-hop HF radio reflection off the ocean with regard to different situation
- Awarded the Honorable Mention

PROJECTS

AWS based Web Service Development-Job Recommendation

09/2020-11/2020

- Created Java servlets with **RESTful** APIs to handle HTTP requests and responses
- Built **MySQL** database on **Amazon RDS** to store position data from Github API
- Designed algorithms (e.g., **content-based** recommendation) to improve job recommendation based on search history and favorite records)
- Deployed server to **Amazon EC2**
- Used personalization to improve job search and recommendation

Purchase Decision on Stock via GAN

03/2020-05/2020

- Build two Generative Adversarial Network combined with FFN as the generator and CNN or LSTM as the discriminator
- Establish a comparison among these two GAN models and vanilla FFN model and explains the difference in results to better make purchase decision in stock market
- Achieved an accuracy of 90.5% correct decision rate