Zhuoyang Fu

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EDUCATION BACKGROUND

Bachelor of Science, Kean University - Wenzhou Campus (WKU) **Expected in 05/2022**
Major in Computer Science; Minor in Mathematical Science *Wenzhou, Zhejiang*
Overall GPA: 3.65/4.00

PUBLICATION AND RESEARCH PAPER

- **Fu, Z.**, Yu, G., Liu, M., Lee, C. T., & Lin, J. E. (2021, May). Data Analysis of Influencing Factors of Air Quality in Chinese Cities. In *"2021 6th International Conference on Big Data and Computing"* (pp. 61-68).
- Yu, G., **Fu, Z.**, Huang, Y., & Lee, C. T. (2021, August). Data analysis of Higher Education System Based on TOPSIS and Time Series Model. In *"2021 5th International Seminar on Education, Management and Social Sciences (ISEMSS 2021)"* (pp. 1014-1024). Atlantis Press.
- **Fu, Z.** & Lee, C. T. (2021, October). On The Study Of Effective Algorithm For Travelling Salesman Problem Based On Multiple Optimization Methods. *Systems Science Control Engineering* (under review).

PROJECT AND RESEARCH EXPERIENCE

Data Analysis of Influencing Factors of Air Quality in Chinese Cities | *Python, MATLAB*
- Implement two models: PCA (Principal Component Analysis) demonstrated that, in addition to the main component of air pollution in the traditional sense, ozone is also an important component of air pollution. TOPSIS (Distance method of superior and inferior solution) got the 31 major cities' air quality ranks.
- Establish a heat map by the API of AutoNavi Map and create the Python's seaborn correlation coefficient map to complete the visualization of the results.

Data Analysis of Higher Education | *Python, MATLAB*
- Devise principal component analysis (PCA) to find the relationship between different feature variables.
- Apply the seasonal autoregressive integrated moving average (SARIMA) model to simulate the changes after the policy is released.

On The Study Of Effective Algorithm For TSP Based On Multiple Optimization Methods | *Java, Python*
- Apply and implement five advanced algorithms (Tabu Search, Genetic Algorithm, Particle Swarm Optimization, Ant Colony Algorithm and Self-Organized Map) to re-analyze the Travelling Salesman Problem.
- Compare and evaluate their respective computational efficiency in terms of time complexity, stability test, convergence and optimal solution. Offer information to do selective and situational use of algorithms when limitations occur.

INTERNSHIP EXPERIENCE

Zhejiang Jin Lan Zuan Information Technology Company **07/2020 - 08/2020**
Web Development and Operation Engineer | MySQL, Python, PHP *Shaoxing, Zhejiang*
- Maintain the normal operation of the machine and system update work for the government service all-in-one machine applied in the community center. Remotely monitor the client program in order to provide usage statistics of each service.
- Completed the database table design work through database management tool, and improved the implementation of the data call interface work.

TECHNICAL SKILLS

Languages: Python(proficient), Java(proficient), C(entry level), HTML/CSS(entry level), JavaScript(entry level), MySQL(familiar), PHP(familiar), MATLAB(proficient)
Developer Tools: VS Code, Eclipse, PyCharm, IntelliJ IDEA
Technologies/Frameworks: Linux, GitHub

HONORS & AWARDS

Conference Chair, PRAI 2019 & MISNC 2019 **08/2019**
Outstanding Volunteer *Wenzhou Kean University*

2021 Contemporary Undergraduate Mathematical Contest in Modeling **09/2021**
Third Price *Wenzhou Kean University*
- Grouped with two fellows to solve an actual question through modeling within four days. Implemented the algorithms (Monte Carlo Simulation, Reinforcement Learning - Q-Learning) and mathematical model (Wavelet Analysis) with Python and MATLAB. Completed a report at the end of the competition.

Dean's Scholarship **12/2021**
Research and Innovation *Wenzhou Kean University*