Yufan Zheng

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Education

Nanfang College of Sun Yat-sen University Guangzhou, China
Candidate for Bachelor of Computer Science and Technology *Sep 2018 – Present*

- **GPA** : 85.74 / 100 (3.46/5.0)
- **Core Curriculum** : Advanced Mathematics (89), Data Structure and Algorithm (92), Discrete Mathematics (91), Database Principles and Applications (87)

Publications

Peer-reviewed Journal Articles

- Zhan C, **Zheng Y**, Zhang H, et al. "Random-Forest-Bagging Broad Learning System with Applications for COVID-19 Pandemic." IEEE Internet of Things Journal (2021). **(SCI, 2020 IF:9.936)**
- Zhan C, **Zheng Y**, Lai Z, et al. "Identifying epidemic spreading dynamics of COVID-19 by pseudocoevolutionary simulated annealing optimizers." Neural Computing and Applications 33.10 (2021): 4915-4928. **(SCI, 2020 IF:4.8)**

Conference Paper

- **Zheng Y**, Zhen Q, Tan M, et al. "COVID-19's impact on the Box office: Machine Learning and Difference-in-Difference." 2021 16th international conference on intelligent systems and knowledge engineering (ISKE). IEEE, 2021. **(EI)**
- Li J, **Zheng Y**, Hu H, et al. "Predicting video game sales based on machine learning and hybrid based feature selection." 2021 16th international conference on intelligent systems and knowledge engineering (ISKE). IEEE, 2021. **(EI)**
- Lin J, Tan M, **Zheng Y**, et al. "Detection Capability Prediction Based on Broad Learning System During The COVID-19 Pandemic." 2021 16th international conference on intelligent systems and knowledge engineering (ISKE). IEEE, 2021. **(EI)**
- Wu S, Hu H, **Zheng Y**, et al. "The impact of COVID-19 on online games: Machine learning and Difference-In-Difference." CCF Conference on Computer Supported Cooperative Work and Social Computing. Springer, Singapore, 2021. **(EI)**
- Wu S, **Zheng Y**, Lai Z, et al. "Movie box office prediction based on ensemble learning." 2019 IEEE Symposium on Product Compliance Engineering-Asia (ISPCE-CN). IEEE, 2019. **(EI)**

Professional Experience

Research Institute of Big Data and Artificail Intelligence (RIBDAI) Guangzhou, China
Nanfang College of Sun Yat-sen University **Manager: Prof. Choujun Zhan**
Position: Research Assistant *Sep 2018 – Present*

Research on COVID-19 epidemic transmission

- A COVID-19 epidemic research database for 184 countries, 1241 regions or cities from December 8, 2019 to March 15, 2021 was established using crawler and data cleansing techniques;
- A new improved machine learning model (RF-Bagging-BLS) was proposed to predict the cumulative number of COVID-19 infections in various countries and regions around the world, and the predicted evaluation result of R^2 reached 0.99;
- Using the Difference-in-Difference model in Synthetic Control Methods to to quantify the impact of COVID-19 on box office and online game;
- Data mining was used to analyze the relationship between COVID-19 transmission and detection capabilities, and machine learning, ensemble learning and broad learning system were used to establish prediction models for future detection capabilities of each country.

Research on Film Industry

- Using crawler and data cleaning techniques, a global box office research database containing 13,737 films from 1980 to 2017 was established;
- An ensemble learning method in machine learning is used to build a box office prediction model.

Research on Video Game Industry

- Using crawler and data cleaning techniques, a video game research database containing 57,448 games from 1989 to 2018 was established;
- A hybrid feature selection method was proposed combining random forest and correlation analysis;
- An video game sales forecasting model is established by using traditional machine learning and ensemble learning.

Research on Online Game Platform

- Using crawler and data cleaning techniques, a global online game research database containing 51,914 games from 2004 to 2020 was established;
- An online game players forecasting model is established by using traditional machine learning and ensemble learning.

Activities

International Conference on Neural Computing for Advanced Applications 2021 Guang Zhou, China
Volunteer *Aug 2021*

Assisted in the organization and conduct of academic conferences, led the group in the preparation and commissioning of conference site equipment, and the coordination of conference site services.

The 22th International Conference on E-health Networking, Application Shen Zhen, China
Attendee *Dec 2020*

Engage and interact with researchers and professionals in the field of communication technology applications to find new solutions to improve health services and applications.

2019 IEEE International Symposium on Product Compliance Engineering-Asia Hong Kong, China
Attendee and Speaker *Oct 2019*

Introduce the research situation of film box office prediction in detail and share how to establish the box office prediction model by using the method of ensemble learning. Exchange views and insight with scholars engaged in product safety promotion and smart city construction.

Awards

- Third prize in 2021 China Undergraduate Mathematical Contest in Modeling *Oct 2021*
- Best Volunteer in International Conference on Neural Computing for Advanced Applications 2021 *Aug 2021*
- National Scholarship *2019 – 2020*
- Second prize Scholarship(awarded to the top 6%) *2019 – 2020*
- Merit award conference paper in 2019 IEEE International Symposium on Product Compliance Engineering-Asia *Oct 2019*

Certificates

- Provincial College Students' Innovative Entrepreneurial Training Plan Program, Solar radiation estimation system based on sunshine duration and Planck's theorem, **Participant** *2020 – 2021*
- Provincial College Students' Innovative Entrepreneurial Training Plan Program, E-business strategy mining based on big data and machine learning, **Participant** *2020 – 2021*
- Software copyright, Data analysis and prediction system of epidemic infectious disease change based on machine learning *2020*
- Software copyright, Chinese film box office data analysis and prediction system based on machine learning *2020*
- Software copyright, Based vehicle flow detection system based on deep learning *2020*
- Provincial College Students' Innovative Entrepreneurial Training Plan Program, Box office forecasting based on big data and deep learning, **Principal** *2019 – 2020*

Research Interests

I am interested in Time-series, Machine learning, Deep learning, Complex network, Evolutionary algorithms. My current focuses include:

- Epidemiological dynamics modeling.
- Decision optimization of epidemic prevention measures.

- Time series analysis and prediction modeling.

Skills

Programming Python(pandas, numpy, matplotlib, pytorch, scikit-learn), Java, C, Maltab, LaTeX
Tools Git, Linux
Languages English(College English Test-Level 4, 469), Mandarin