Yuchuan Wang

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Education

China University of Geosciences, Beijing (CUGB) 09/2017 – 07/2021

- *B.M. in Information Management and Information Systems*
- Average score: 88.59/100; GPA: 3.61/4.00 (WES)
- Honors & Awards:
  - Third-tier Scholarship, CUGB (2018, 2019, 2020)
  - Third Prize in China National College Students Competition on Energy Economics (2020)
  - Third Prize in Beijing for China University Student Computer DesignCompetition (2020)
  - Honorable Mention for "Shuwei Cup" International Mathematical Contest in Modeling (2019)
  - Third Prize in Beijing for "Hongya Cup" National Big Data Skill Match for College Student (2019)
  - Third Prize in CUGB for the Innovation, Creativity, Entrepreneurship E-Commerce Competition (2019)

University of California, Irvine (UCI) 07/2019 – 09/2019

Experience University Research Program

- **Relevant Course:** Expressive Design with IoT Device & Robots
- Cumulative GPA: 3.93/4.00

Selected Research & Projects

Linkage Mode between Energy Stocks and Investor Sentiment under Pandemic 02/2020 – 06/2020

Team Leader

- **Highlight:** Won 3rd National Prize for the '6th China National College Students Competition on Energy Economics'
- **Description:**
  - Calculated stock price composite index and comment sentiment value using principal component analysis (PCA) and text mining
  - Studied linkage mode between investor sentiment and stock price of PetroChina (SH.601857) during the COVID-19 pandemic using complex network approach
- **Responsibilities:**
  - Crawled stock price of PetroChina and investors' comments from Eastmoney BBS using python
  - Performed data cleansing, word segmentation & word frequency calculation using python; created sentiment-based dictionary to calculate comment sentiment values; established sentiment time series using Excel
  - Executed dimension reduction to stock data, established indicators via SPSS; established complex network models reflecting linkage between stock indicators and investor sentiment
  - Identified key linkage modalities and main transmission path with network indicators (including weighted out-degree, modularity coefficient, etc.)
  - Analyzed community features of the network; participated in preparation of a research report
- **Conclusions:**
  - Stock price and investor sentiment were concurrent during the COVID-19 pandemic
  - Weighted out-degrees of linkage modalities conform to a power-law distribution with critical modalities in the network
  - The critical modalities (hubs) in the network connect the major conduction paths
  - Centered on the critical modalities are phenomena of community, along with other modalities transitioning through the critical modality

Personalized Recommendations of Social Platforms Based on Multi-dimensional User Characteristics

Team Member 12/2019 - present

- **Highlight:** Won the 3rd Prize in Beijing for the 'China University Student Computer Design Competition'
- **Description:**
  - Identified user acceptance behavior based on what users expect to receive and actually receive
  - Explored basic characteristics of different groups as well as knowledge input and output behaviors
  - Made improvements to traditional recommendation algorithms based on user acceptance behavior
- **Responsibilities:**
  - Crawled publicly available data of 13,764 users of Zhihu using python; performed data cleansing and de-weighting; constructed a 0-1 matrix of users and their responses
  - Analysed a recommendation algorithm based on clustering of user acceptance behavior; performed the ten-fold cross-validation test with data set via R; participated in preparation of a research report
- **Conclusions:**
  - Users can be classified into 4 types: browsing without purpose, browsing with topics, gaining knowledge around topics, user-centric
  - The way that information is accepted is more likely to promote knowledge contribution behavior than the amount of information accepted
  - The efficiency of a user's fan accumulation is influenced by the mode and quality of knowledge output
  - The hybrid recommendation algorithm in this work is 24.9% more accurate than the user-based collaborative filtering algorithm and 38.2% more accurate than the prevalence-based recommendation algorithm

Connectivity Evaluation of Bohai Bay Port Cluster Based on Complex Network 12/2018 – 05/2020

Person in Charge

- **Description:** Established complex network using route data of liner shipping company; built connectivity assessment model using principal component analysis; discovered key indicators that affect connectivity and inform future management and decision-making
- **Responsibilities:**
  - Collected global route data of major liner shipping companies by tracking the Alphaliner website for 3 months
  - De-weighted and sorted route data using EXCEL and MATLAB, formed a 0-1 matrix for the port
  - Modeled global port-route complex network through Gephi; Established port connectivity evaluation model based on topological features through principal component analysis using SPSS; prepared a report
- **Conclusions:**
  - Bohai Bay port cluster has high connectivity in global shipping, but falls behind in the domestic competition
  - Among ports in Bohai Bay, Qingdao is the best in connectivity, Tianjin the second, and Dalian last
  - Port connectivity can be enhanced by improving nodal, compact, and feature vector centrality

Activities

Union of Student Associations, CUGB 09/2017 – 11/2018

- Kept liaison with Communication University of China and Beijing University of Chinese Medicine
- Visited the events held by the Beijing Institute of Technology and Central Academy of Drama, respectively
- Assisted in recruitment, as well as the Closing Gala of Association Culture Festival in 2018 Spring

Volunteering Experiences

- *Publicity volunteer* for legal awareness in the communities through skit performances (04/2018)
- *In-court volunteer* in the Beikong Fly Dragons team in the CBA 2017-2018 regular season (12/2017)
- *Volunteer* for used clothing recycling in the 'Ren Ai Clothes Donation' public welfare activity (12/2017)

Proficiencies

- **Programming skills:** C++, Java, PHP, SQL, Python
- **Software skills:** MATLAB, SPSS, Axure, Gephi, UCINET, ArcGIS, Solidworks, MS Office Suite
- **Languages:** Mandarin (Native); English (Fluent)