Yuwei Zhang

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Last updated: October 21, 2021

EDUCATION

School of Computer Science, Fudan University   **Shanghai, China**

Bachelor of Computer Science, Jul. 2022(expected)

o Cumulative GPA: 3.84/4.0 (In-Major: **3.93/4.0**), School Rank:**2/153**

PUBLICATION

(# denotes Co-First author)

o Structural Hole Theory in Social Network Analysis: A Review.
Zihang Lin#, **Yuwei Zhang**#, Qingyuan Gong, Yang Chen, Atte Oksanen, Aaron Yi Ding.
To appear: IEEE Transactions on Computational Social Systems (TCSS).

o A Human Mobility Dataset Collected via LBSLab. (under review)
Yuwei Zhang, Qingyuan Gong, Yang Chen, Yu Xiao, Xin Wang, Pan Hui, and Xiaoming Fu
Submitted to: *Scientific Data* (Nature Publishing Group)

RESEARCH EXPERIENCE

Mining Mobility Patterns using Shanghai Smart Card Data   **University of Göttingen**

Advisor: Prof. Xiaoming Fu   *Jun. 2021 – Present*

o Trying to predict the socioeconomic status (SES) of regions based on mobility data using machine learning techniques

o Analyzing different mobility patterns in Shanghai Metro (weekday v.s. weekend, commuter v.s. tourist, etc), detecting and explaining anomalies to monitor special events

o Aiming to provide insights for urban planning of Shanghai

Data Analysis of LBSLab, a Mobile-centric Data Collection Platform   **Fudan University**

Advisor: Prof. Yang Chen   *Jan. 2021 – Present*

o Performed analysis on the mobile check-in data of 467 students collected by LBSLab, a WeChat mini-program that collects users' heterogeneous activity data

o Analyzed the spatial and temporal patterns of the user behaviors and their influence on users' mood, with visualizations

o Constructed a paper submitted to *Scientific Data*

Reviewing Structural Hole Theory in Social Network Analysis   **Fudan University**

Advisor: Prof. Yang Chen   *Jan. 2020 – Mar.2021*

o Provided a comprehensive review on the development of structural hole (SH) theory, SH spanner detection algorithms and SH-related applications in diverse fields

o Identified potential research trends in the area, with insights for facilitating researchers and service providers to better apply the theory

o Contributed to a paper accepted by ***IEEE TCSS*** (Co-First author)

Mobile Application Usage Analysis and Prediction   **Fudan University**
Advisor: Prof. Yang Chen   *Mar. 2020 – Present*

- o Explored the users' mobile app usage behaviors with regard to time and location
- o Constructed an app usage graph to understand the co-occurrence of apps in users' app usage records
- o Applied GCN to generate embeddings for the mobile apps and performed clustering
- o Incorporating the app embedding serving as a global pattern into an LSTM-based prediction model to resolve data sparsity and cold-start problems

PROJECT EXPERIENCE

Food Recipes Classifier and Random Generator, NLP Course Project   *Oct. 2020 - Jan. 2021*

- o Performed data preprocessing using Python and regular expressions to extract the ingredients, conducted data distribution analysis and visualized using MATLAB and the wordcloud Library
- o Built LR classifiers to predict cuisine and courses of a recipe, using features ranging from Bag of Words, TF-IDF and word2vec embeddings
- o Fine-tuned the GPT-2 model to train a random food recipes generator, using Google Colab

Music Genre Converter, Google Software Product Sprint   *Jul. 2020 - Aug. 2020*

- o Collaborated with a team of peers to design and implement a web application using JavaScript, HTML, and CSS over 10 weeks
- o Understood and implemented state-of-the-art ML models in Python and deployed it at the back-end serving to the web application on which visitors can smoothly convert a music piece into a selected new genre

INDUSTRIAL EXPERIENCE

Unity   **Shanghai, China**
Software Engineer Intern   *Mar. 2021 – Sep.2021*

- o Improved user experience by identifying inconsistency and flaws of the product and proposing solutions to improve the workflow
- o Designed test cases to comprehensively evaluate a mobile application and wrote product description pages to introduce and promote our product
- o Wrote code in Go language, collaborated with a large team, and familiar with industry developing tools like Git, Docker, and postman

SELECTED AWARDS

- o Shanghai Scholarship (**Top 1%**)   2021
- o Chinese National Scholarship (**Top 1%**)   2020
- o Chinese National Scholarship (**Top 1%**)   2019
- o Freshman Admission Scholarship of Tengfei College, Fudan University (**Top 2%**)   2018

SKILLS

- o **Programming languages**: Python, Java, MATLAB, C/C++, Go, JavaScript, HTML, CSS
- o **Spoken languages**: Chinese-Native, English-Fluent (**TOEFL iBT**: 111, **GRE**: 332)
- o **Other skills**: photography, Final Cut Pro, Photoshop, Axure, Office