

Yuwei Zhang

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EDUCATION

Fudan University

Shanghai, China

Bachelor of Science in Computer Science

Sep. 2018 - Jul. 2022

- Major GPA: **3.9/4.0**, School Rank: **2/153**
- Selected awards: 2021: Shanghai Scholarship (Top 1%); 2020 and 2019: Chinese National Scholarship (Top 1%); 2018: Freshman Admission Scholarship of Tengfei College (Top 2%)

PUBLICATIONS

(# denotes Co-First author)

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

RESEARCH EXPERIENCE

Mining Mobility Patterns using Shanghai Smart Card Data

University of Göttingen

Advisor: Prof. Xiaoming Fu (IEEE Fellow & Member of Academia Europaea)

Jun. 2021 – Present

- Use mobility data (over 5 million records per day, spanning two years) to cluster metro stations into 3 regions and analyze their features, such as POIs
- Analyze different mobility patterns in Shanghai Metro (weekday vs weekend, commuter vs tourist, etc), detecting and explaining anomalies to monitor special events
- Adopt network analysis methods to examine mobility network between metro stations and measure their influence, aiming to provide insights into Shanghai urban planning

Data Analysis of LBSLab, a Mobile-centric Data Collection Platform

Fudan University

Advisor: Prof. Yang Chen

Jan. 2021 – Aug. 2021

- Performed analysis on the mobile check-in data of 467 students collected by LBSLab, a WeChat mini-program that has attracted more than 2,000 users and gathers users' heterogeneous activity data
- Analyzed the spatial and temporal patterns of the user behaviors along with influence on users' moods, with visualizations using MATLAB
- Contributed a first-author paper, submitted to *Scientific Data* (Nature Publishing Group)

Mobile Application Usage Analysis and Prediction

Fudan University

Advisor: Prof. Yang Chen

Mar. 2020 – Dec. 2020

- Constructed an app usage graph to understand the co-occurrence of apps in users' app usage records, considering time and location
- Trained an LSTM-based personalized model for app prediction problem, increasing F1-score from 0.85 to 0.94
- Applied GCN to generate embeddings for the mobile apps and incorporated the app embedding as a global pattern into the prediction model to resolve data sparsity and cold-start problems

Reviewing Structural Hole Theory in Social Network Analysis

Fudan University

Advisor: Prof. Yang Chen

Jan. 2020 – Mar.2021

- Provided a comprehensive review on the development of structural hole (SH) theory, SH spanner detection algorithms and SH-related applications in diverse fields
- Identified potential research trends, giving insights for facilitating researchers and service providers to better apply the theory
- Contributed to a co-first author paper accepted by *IEEE TCSS*

PROJECT EXPERIENCE

Food Recipes Classifier and Random Generator, NLP Course Project

Oct. 2020 - Jan. 2021

- Performed data preprocessing using Python and regular expressions to extract ingredients; conducted data distribution analysis and visualized using Python
- Built LR classifiers to predict cuisine and courses of a recipe, using features ranging from Bag of Words, TF-IDF and word2vec embeddings, achieving a 0.735 F1-score for a multi-class classification task with 22 classes
- Fine-tuned a GPT-2 model to train a random food recipes generator

Music Genre Converter, Google Software Product Sprint

Jul. 2020 - Aug. 2020

- Collaborated with a team of peers to design and implement a web application using JavaScript, HTML, and CSS
- Implemented state-of-the-art GAN-based ML models in Python and deployed it at the back-end serving to the web application on which visitors can convert a piece of music into a new genre

WORK EXPERIENCE

Unity

Shanghai, China

Software Engineer Intern

Mar. 2021 – Sep.2021

- Wrote code for PlasticHub in Go language, collaborated with a large team, and got familiar with industry developing tools like Git, Docker, and Postman
- Improved user experience by identifying inconsistencies and product flaws; proposed solutions to improve workflow
- Designed test cases to comprehensively evaluate our program and wrote product description pages to introduce and promote our product

LEADERSHIP EXPERIENCE

Student Union, School of Computer Science

Fudan University

Director of Video Department

Sep. 2019 – Jan.2020

- Produced a 4-minute film, which got 189,000 views online and was rated as excellent by Fudan University, coordinating a team of 15 students
- Planned and organized a two-week music and film event with 100+ active participants
- Contributed to the organization of large shows and concerts with 400+ attendees; supervised volunteer photographers and videographers

SKILLS

- **Computer Skills:** Python, Java, MATLAB, C/C++, Go, JavaScript, HTML, CSS, Final Cut Pro, Photoshop, Axure, Office
- **Languages:** Chinese (native), English (fluent) (**TOEFL iBT:** 111)
- **Interests:** Photography, vlogging, volunteering, baking