

Chen Luo

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EDUCATION

University of Melbourne *Melbourne, Australia*

Jun 2024 - Dec 2027

- **Major:** PhD of Information Systems
- **Research Field:** Open Innovation, Generative AI, Design Science, Social Media

University of Southern California *Los Angeles, United States*

Aug 2018 - May 2020

- **Major:** Master of Data Science
- **GPA:** 87/100
- **Core Coursework:** Data Management, Data Mining, Machine Learning, Predictive Analytics

Wuhan University of Technology *Wuhan, China*

Sep 2013 - Jun 2017

- **Major:** Bachelor of Information Management & Information System
- **GPA:** 86/100 (top 5% in the cohort)
- **Core Coursework:** Data Structure, Database Management, Probability Theory and Statistics

RESEARCH INTERESTS

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- Design Science; Information Systems; Generative AI; Innovation; Social Media; Data Science; Machine Learning; Predictive Analysis

PUBLICATIONS

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- **Luo, Chen;** Liu, Libo; and Cui, Tingru, "Identifying Digital Lead Users: A Systematic Review and Theoretical Framework" (2025). *PACIS 2025 Proceedings. 1*.
https://aisel.aisnet.org/pacis2025/is_adoption/is_adoption/1
 - Yu, Zixiao; Cui, Tingru; **Luo, Chen;** and Tan, Dilang, "A Systematic Literature Review on Human-Agent Teaming with Insights into Multi-Agent Interactions" (2025). *PACIS 2025 Proceedings. 20*.
<https://aisel.aisnet.org/pacis2025/hci/hci/20>
 - **Luo, C.,** & Shi, J. (2023). A Topic Lifecycle Trend Prediction Algorithm on Facebook. *Journal of Visual Language and Computing, Volume 2023, Number 1, August 2023*
DOI reference number: 10.18293/JVLC2023-N1-30

PATENTS

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- Social Media-oriented Topic Lifecycle Trend Prediction Method and System, and Medium.
Application number: 202210510826.7
 - Topic Lifecycle Curve Clustering Method, System and Application.
Application number: 202210509853.2
 - Public Opinion Trend Analysis Application Method, System and Application Based on MACD Index.
Application number: 202211319318.7
 - BIAS Index-based Public Opinion Trend Analysis Application Method, System and Application.
Application number: 202211274465.7
 - Intelligent Household Automatic Dish-washing Device.
Application number: 201520154070.2
 - Intelligent Hair Washing Cap.
Application number: 201420705022.3
 - Voice Identification-based Intelligent Access Control System.
Application number: 201610189473.X
 - A Smart-home Multifunctional Network Mobile-phone Remote Control System.
Application number: 201610195511.2

RESEARCH EXPERIENCE

CyberArray (China Electronics Technology Group Corporation)

Nov, 2020 – Present

Data Scientist

Shenzhen, China

Topic Lifecycle Trend Prediction Algorithm Based on Facebook

- This project aims to develop a topic lifecycle trend prediction algorithm using Facebook data. The algorithm considers the **similarity** between **new topics** and **historical topics** in terms of **lifecycle curves** and the similarity in terms of **text content**, **breaking the limitation** that one model of existing public opinion prediction technology can only solve a specific event.
- Used **K-Shape** to cluster historical topic curves, **DTW** to calculate the similarity between the initial curve features of new topics and the clustering curves of historical topics, combined with Jaccard to calculate the similarity between the text content of new topics and historical topics. Recommended the historical topic curves with similar curve features and text content as the prediction of possible future trends of new topics **with an accuracy of 90%**.

Topic Popularity Prediction

- This project aims to solve the current problem of untimely early warning of public opinion events by developing a popularity prediction algorithm based on the initial spread characteristics of topics, which can use the first 12h data characteristics of topics to predict whether topics will eventually become popular or not.
- Constructed **41** features about topics such as the number of related posts, the number of likes, posting periods, maximum growth rate and so on, applied those features to various machine learning models like **SMOTE+RF**, **XGBoost**, **LightGBM** and **CatBoost**, achieved a final **accuracy of 91%** and an **AUC value of 88%**.

University of Southern California

Aug, 2018 – May, 2020

Student Assistant

Los Angeles, US

Behavior Prediction of Travelers in Rio International Airport

- This project aims to predict travelers' behavior in Rio International Airport, and assist the stakeholders in **optimizing space utilization and manpower management**.
- Responsible for the data in terminal 1(Lean Six Sigma, Python, Keras, Google Cloud Platform, BigQuery).
- Analyzed large data from company Kiana Analytics (a total of 1.2 billion pieces of information, about 21G)
- Distinguished passengers and airport staff, **classified** passengers' behavior into **3 categories** (Eating, shopping, waiting) and **made predictions** about their behaviors.
- Finalized three best classifiers XGBoost, LightGBM, CatBoost with **accuracy of 81%**.

Box Office Prediction Based on TMDB Dataset

- This project aims to predict the overall worldwide box office revenue from the Movie Database.
- Explored the dataset and extracted relevant features, then got the best result from classifier CatBoost with **RMLSE (Root Mean Squared Logarithmic Error) of 2.17823**. Considering that box office revenue worth tens of millions, this error result is deemed acceptable.
- Link: <https://github.com/Linc0412/Box-Office-Prediction/blob/master/Box%20Office%20Prediction%20Final.ipynb>

Recommendation System Based on Yelp Dataset

- This project is to develop item-based CF, user-based CF recommendation systems by **only using python standard libraries and Spark RDD** in limited time.
- Used **Pearson Correlation** to calculate the similarity between items/users, predicted the stars(ranging from 1 to 5) of validation set and achieved an **RMSE of 1.34**.
- Implemented the minimum hash (Minhash) and the local sensitive hash algorithm (LSH) to calculate the Jaccard similarity, filtered out irrelevant items/users, **reduced RMSE to 1.01**.
- Link: https://github.com/Linc0412/INF-553/blob/master/HW3/chen_luo_task2.py

Insects Image Classification Based on Machine Learning

- This project aims to classify several the most common classes of insects by implementing different algorithms.
- Extracted features from the pre-trained models VGG16, ResNet50, Inception V3 and Xception, applied those features to various classifiers and got the best result from Xception+SVM with an **accuracy of 79.66%**.

HK Auto Repair, Inc Website Redesign

- This project aims to redesign the website of a company, and provide people with a better user experience.
- Conducted field research on the company to understand the company and customer needs, then completed wireframe and prototype design (Lean Six Sigma, Sketch, Adobe XD).
- Participated in online user testing, and made improvements based on feedback.
- Link: <https://www.behance.net/gallery/89164099/HK-Auto-Repair-Inc-Website-Redesign>

EXTRACURRICULAR ACTIVITIES

- Ensured the safety of students around the campus as a Campus Cruiser and drove them home when studying late. 2019
- Participated in the organization of the North American public performance of the film "Wandering Earth", and assisted in promoting Chinese Sci-Fi. 2019

AWARDS

- Melbourne Research Scholarship 2024
- Group Company Technical Research Breakthrough Award 2022
- Outstanding Graduate of Wuhan University of Technology 2017
- Qualification of Postgraduate Recommendation 2016
- Second Prize of Excellent Scientific Research Achievement in Hubei Province 2016
- Excellent Student Scholarship 2014,2015

SKILLS

Computer: Proficiency in Microsoft Office/Google Application, SQL, Python, AWS, Adobe XD, Sketch, Xmind, Tensorflow, Keras, LaTeX

Language: Fluent in English(IELTS 7.0) and native in Mandarin Chinese

Certificate: Melbourne Plus: Innovation (PhD Innovator Program, 2025)

Supervised Machine Learning, University of Stanford(Coursera, Aug 2022),

Advanced Learning Algorithms, University of Stanford(Coursera, Aug 2022)