

Fangqing Yuan

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Home Page: <https://fredfreddo.github.io/2025/01/08/About-Me/>

Open to Relocation

MS Data Science & Bridge Champion with a strong foundation in **machine learning, statistical modeling, data analytics & engineering**. Skilled in developing **robust models**, optimizing **decision-making**, and applying AI-driven **solutions**

EDUCATION

University of Michigan, Ann Arbor, MI, USA

Aug 2021 - Dec 2024

Master of Data Science

- Course Highlights: Regression and Data Analysis, Data Mining and Statistics Learning, Natural Language Processing, Survey and Sampling Theory, Time Series Analysis, Data Manipulation and Analysis

Libera Università Internazionale degli Studi Sociali "Guido Carli" (LUISS), Rome, Italy

Sep 2018 - July 2021

Bachelor of Science in Management and Computer Science

- Full Scholarship, Graduated **110/110 Cum Laude**;
- Exchange @ KU Leuven; Summer @ Stanford
- Course Highlights: Social Network Analysis, Database Management, AI&HPC, Machine Learning, Business Analytics, Finance, Macroeconomics, Microeconomics, Business law and ICT

SKILLS

GITHUB: [HTTPS://GITHUB.COM/FREDFREDDO](https://github.com/fredfreddo)

- **Programming Languages:** Python, SQL, C++, Java, R, MATLAB, TypeScript, Bash
- **Data Processing, Analysis, Visualization:** (Pandas, NumPy, Matplotlib, Seaborn, Streamlit, Tableau, Power BI)
- **Machine Learning** (TensorFlow, PyTorch, Scikit-learn, XGBoost, Scipy, Keras)
- **A/B Testing & Experimentation** (Causal Inference, Bayesian Statistics), **Time Series Analysis** (arima, pomp), **NLP & LLM**
- **Big Data & ETL** (Spark, Hadoop, Hive, Kafka), **Database** (SQL, NoSQL), **Cloud & DevOps** (AWS, Azure, Git, Docker)
- **Languages: Proficient in** English, Chinese (Mandarin and Cantonese), Italian

WORK EXPERIENCE

Institute for Social Research | Developer / Assistant | Ann Arbor, University of Michigan

May 2024 - Aug 2024

- **Collaborated** in developing IVEware software, a data imputation tool that may interact with R, SPSS, SAS, STATA
- **Implemented** ordinal regression algorithm with gradient descent via C++
- **Developed** data imputation by Multiple Imputation by Chained Equations algorithm on social and biostatistical dataset

Kuaishou (Kwai) | Data Science Intern | Beijing

Aug 2023 - Dec 2023

- **Built and presented** 15+ weekly insights reports, enabling data-driven decision-making for social recommendations
- **Designed and implemented** user relationship recommendation strategies for 400 million users using C++ and Java
- **Mined** information from hundreds of petabytes of user events log data using SQL and python
- **Designed and deployed** an event streaming pipeline using Kafka and hive, enabling real-time user behavior analysis
- **Automated** data log extraction, quality checks and anomaly detection in ETL workflows using Python and SQL
- **Developed** high-performance data models for petabyte-scale analytics, reducing inefficient user recommendations by 10%
- **Optimized** treatment conversion by 5% and user retention by 10% using Uplift model with budget constraint
- **Conducted** A/B testing, **cleaned** and **processed** data, **built** and **trained**:
 - Machine learning models to classify and predict user behaviors and preference, optimizing content recommendation
 - Causal models to selected optimal strategies, boosting DAU (daily active users) by 0.1%, and Lifetime 7 by 0.29 days

Shanghai Gold Exchange | Data Analyst Intern | Remote / Shanghai

Jun 2020 - Sep 2020

- **Designed and utilized** Python web crawler gathering gold market data in the past 10 years from different sources
- **Analyzed** Gold price data via financial and time series models, presented comparative analysis of Precious Metals Market

Informatics Olympiads Training Camp & LUISS Matics Programming Contest

Apr 2020 - Oct 2020

- **Mentored** 100+ students, guiding them in data structures, algorithms, and problem-solving strategies, leading to 25 out of 54 Italian Olympiad 2020 gold medalists emerging from the program;
- **Designed, wrote, tested, and managed** 10+ weekly course exercises and 2 large-scale programming contests, totaling 30+ problems, ensuring a diverse range of difficulty levels and techniques;
- **Developed and maintained** online competitive programming platform to host contests and exercises;
- **Implemented** automated grading and code evaluation, improving contest efficiency and fairness.

ALLFOOTBALL | News Editor | Beijing

May 2019 - Aug 2019

- Soccer news app and social media in English based in Beijing with millions of users all over the globe;
- **Edited** 451 soccer news articles in English, with more than 20,000 words
- **Performed** data summary and **wrote** insightful analysis of matches, players, transfers, boosting readership by 5%;
- **Interacted** with users on AllFootball app article comment section with 300,000+ exposures and 20,000+ reads.

RESEARCH EXPERIENCE

Master Degree Capstone | University of Michigan

Oct 2023 - Apr 2024

Assessing the Effects of Applying Ranking-Boosting Strategy on Friends Recommendation System on User Activeness on Kuaishou Short-Video Social Network Platform | [LINK to the Paper](#)

Bachelor Degree Thesis | LUISS Guido Carli

Jul 2021 - Oct 2021

Regression analysis of contract bridge hand evaluation and its application on bidding | [LINK to the Paper](#)

Others:

- Comparative data analysis of economic development and determinants between Hainan and Taiwan;
- Analysis on Asian non-native English learner corpora regarding cultural and grammatical language patterns;

PROJECT HIGHLIGHTS

- **Applied** Partially Observed Markov Process models to simulate and forecast MERS camel-human infection
- **Developed** Language Models to analyze non-native English learner corpora, improving automatic grammatical error detection
- **Simulated** and **analyzed** tiki-taka and counter attack playing styles in soccer via Social Network Modeling;
- **Developed** and **deployed** convolutional neural network to achieve autonomous driving on Udacity car-driving simulator; **Tuned** parameters, explored feature randomization to achieve flexible model that is feasible on various driving situation.
- **Developed** an AI-based bridge bidding and playing system, **simulating** over 100,000 boards with Double-Dummy Solver algorithms, **storing** boards in data structure, **improving** game strategies by 20 International Match Points per board

LEADERSHIP EXPERIENCE

Bridge Life Master

Sep 2011 - Now

- **Captain** of high school and junior national team, organized and promoted Bridge to thousands of students and members
- Multiple national, continental, and international tournaments **Champion**
- Thrive on **high-pressured, fast-paced, real-time** analysis, decision making, and game strategies

WeResQ | Co-founder | Stanford

Jun 2020 - May 2021

- **Led** an international startup developing a food management app to minimize food waste by smartly tracking expiry dates
- **Conducted** surveys, market analysis and competitor research to refine product strategy